Time spent on job search by unemployed persons in Australia

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Executive Summary

1. The objective of this project is to describe patterns of job search and participation in activities such as non-market production and social activities by unemployed persons in Australia, and to analyse the determinants of time spent in job search activities. Time spent on job search activities in Australia is also compared with several other industrialized economies. The project uses data from the ABS Time Use Surveys for 1992 and 1997, and Time Use Surveys for a range of other countries.

2. Job search and social participation are important in constituting pathways to employment; and social participation is important as well as an indicator of individual well-being and community contributions made by unemployed persons.

3. The report consists of three main sections: a) Analysis of time spent on job search by unemployed persons in Australia; b) Comparison of time spent on job search by unemployed persons in Australia with other industrialized countries; and c) Analysis of time spent in activities such as social participation by unemployed persons in Australia.

4. Unemployed persons and those on unemployment benefits are more likely to engage in job search activities and spend longer on job search than employed people, those not in the labour force, and non-benefit recipients. On any given day, 17 to 18 per cent of unemployed people or unemployment benefit recipients participate in job search, and spend around 90 minutes on job search activities if they do participate. Job search is more likely for those with higher levels of education, males, young people, and those living in capital cities. There is no relationship between the length of time spent unemployed and the likelihood or length of job search. These results appear to correspond well with predictions from a theoretical job search model.

5. Unemployed persons in a range of other countries – Canada, United States, United Kingdom, Italy and Germany - are found to be less likely to participate in job search, and spend less time searching, than those in Australia once differences in characteristics between unemployed are controlled for. Unemployed persons in other countries are between 2 and 9 per cent less likely to engaged in job search than in Australia; and participants in job search in Australia spend between 5 and 25 minutes more in job search than in the other countries. Differences in the effects of individual characteristics (such as age or education) on job search, rather than differences in those characteristics, explain why minutes of job search are higher for unemployed persons in Australia than in other countries. One possible interpretation of the differences in effects of characteristics on job search between between Australia and other countries is as representing institutional differences – for example, stricter job search requirements would be expected to be associated with a larger effect of any given characteristic such as age on time spent on job search in Australia than other countries.

6. Unemployed persons spend less time in employment-related activities than full-time or part-time workers, but more time in non-market production activities and social participation, and spend the same amount of time alone. Time spent in non-market production, employment-related activities, and social participation appears to decline with unemployment spell duration. Hence, on average unemployed persons do not seem to differ in their degree of engagement or social participation from the

employed population; but very long-term unemployed do seem at a disadvantage in these dimensions.

1. Introduction

The objective of this project is to describe patterns of job search and participation in non-market production and social activities by unemployed persons in Australia, and to analyse the determinants of time spent in job search activities. Time spent on job search activities in Australia is also compared with several other industrialized economies. The project uses data from the ABS Time Use Surveys for 1992 and 1997, and Time Use Surveys for a range of other countries.

Job search and social participation are important pathways to employment. For example, there is a variety of evidence that the capacity to use contacts of friends and relatives in job search, is a strong predictor of the likelihood of finding employment (for example, Montgomery, 1991, Miller and Volker, 1987, and Heath, 1999). As well, social participation is an indicator of individual well-being and community contributions made by unemployed persons. The original contribution of this study is to present information on time spent undertaking these activities. While there has, for example, been quite extensive analysis of other dimensions of job search such as types of methods of job search used. There appears to be only limited research on the issue of the amount of time spent by unemployed persons undertaking job search and other activities.

2. Data sources

The main data source used in this report is the ABS 1997 Australian Time Use Survey (ABS, 1998). The survey sampling frame is all individuals aged 15 years or older in selected households completing a time use diary for two specified consecutive days, detailing their activities in five-minute intervals. Household and personal information on each of the diary respondents was collected by interviewing a responsible adult in each household.

The survey population covered residents in private dwellings with the exception of non-Australian diplomatic and military personnel, overseas residents in Australia, and

those living in remote or sparsely populated areas. The survey was stratified by state/territory, and was conducted over four time periods to obtain representative data on the number of weekdays, weekends and holidays, and on seasonal variations in time use.

The response rate for the survey was 84.5 per cent, and the final sample includes around 4555 households, comprising around 7260 individuals, and around 14,315 diary days. The ABS provides no information on the possible impact of non-response on results from the survey. However, the resulting diary day records were weighted by the ABS to reflect population benchmarks. These weights have been used in the analysis in this report.

Activities recorded in time use diaries were recoded by the ABS using a standard activity classification scheme, with 216 categories reflecting four main types of time use: necessary time (personal care); contracted time (employment and education); committed time (domestic work, child care, purchasing and volunteering); and free time (social interaction and leisure time). Activities classified as job search include going to CES interviews, checking job lists, looking up job advertisements, making calls seeking information about jobs, job interviews, making arrangements for interviews, preparing for interviews, and making applications for unemployment-related benefits (ABS, 1998).

There are two main populations of interest in the survey:

i. Unemployed persons – defined by the ABS as not being employed in the previous week, having actively looked for work in the previous four weeks, and being willing and able to start work in the previous week; and

ii. Unemployment benefit recipients – defined as those who indicate that they are in receipt of Newstart allowance, Jobsearch allowance, Mature Age allowance or Youth Training allowance.

The 1997 Time Use survey includes 706 diary days for people who are unemployed, corresponding to 7.4 per cent of total diary days of those in the labour force, and 575 diary days for benefit recipients, corresponding to around 4.9 per cent of the total survey sample. The proportion of survey respondents classified as unemployed is 5.8 per cent. Around 47 per cent of unemployed persons are in receipt of unemployment benefits, while almost 58 per cent of unemployment benefit recipients are classified as unemployed using the ABS definition. A further 4 per cent of unemployment benefit recipients are employed full-time, 19 per cent are employed part-time, and 19 per cent are not in the labour force. Almost 40 per cent of unemployment benefit recipients who were not in the labour force were aged over 60 years, and thus most likely in receipt of the Mature Age allowance, which does not have a job search requirement. A further 13 per cent were aged between 55 and 59 years. Appendix Tables 1 and 2 present descriptive information on the various samples used in this study.

The total proportion of persons classified as unemployed (5.8%) appears to correspond fairly closely to data from the ABS Labour Force Survey on the proportion of the civilian population unemployed in June 1997 (5.2%) (ABS, *Labour Force Australia*, catalogue no.6203.0, Table 1, June 1997). However, it is somewhat puzzling why only 47 percent of those classified as unemployed using the ABS definition are recorded as being in receipt of FACS unemployment benefits; and why only 58 per cent of unemployment benefit recipients meet the ABS definition of unemployed. It seems that the main possible explanation for the apparent discrepancy is that some unemployment benefit recipients may not have recorded themselves as being in receipt of payments. Under-representation of receipt of income support payments has also been noted as a problem with some other ABS data sources – see for example, Tseng and Wilkins (2003, pp.203-4) for discussion of under-representation of the incidence of income support in the Income Distribution Survey. The implication of under-representation of unemployment benefit receipt is that most weight should be put on results for the sample of ABS unemployed persons. (Other possible explanations for the discrepancy seem inconsistent with the overall proportion of unemployed persons in the Time Use survey matching Labour Force Survey data. This is because those other explanations – that FaCS unemployed benefit recipients who would also be defined as unemployed by the ABS may be

under-represented in the Time Use survey; or that some unemployment benefit recipients who might usually be classified as unemployed by the ABS may, in the Time Use survey, have been classified as out of the labour force – would cause an increase in the proportion of unemployed persons in the Time Use Survey.)

For the international comparison of time spent on job search, the report also uses data from eight time use surveys from seven countries: Austria, Canada, Germany, Italy, the United Kingdom, the United States and Australia. These countries were chosen primarily because micro-data for each survey were available, and each survey had a distinct category for job search activities[1]. Table 1 shows the year, survey size and collection method for each survey used.

In all countries except the United States, the surveys were conducted by national statistical agencies. In the United States, the survey was conducted by the University of Maryland on behalf of the US Environment Protection Agency. Surveys from Canada and the United States were conducted by telephone with a recall method used whereby respondents were asked what activities they had undertaken on the previous day. The remaining surveys employed a time diary method, whereby respondents filled out a diary detailing their activities. Respondents from Austria, Canada and the United States completed a diary for one day; those from Germany and Australia completed a diary for two consecutive days; those from the United Kingdom completed a diary for a weekday and a weekend day; and those from Italy completed a diary for a weekday, Saturday and Sunday.

3. Time spent on job search by unemployed persons

a. Objectives

[1] In many other time use surveys, job search is included as part of other employment related categories so it was not possible to use these surveys to specifically examine job search.

Unemployed persons are likely to spend some amount of time engaged in job search activities, such as looking at job advertisements, writing applications or attending job interviews. Indeed, in Australia, the ABS defines unemployed persons as those who are not employed, are willing and able to work, and are actively looking for work. In addition, job search requirements or activity tests associated with the receipt of unemployment benefits generally require recipients to be actively looking for work (with some exceptions for those who are undertaking training or study, engaged in a labour market program, are over a certain age limit, or are temporarily incapacitated).

This section of the report will examine:

1. The amount of time that unemployed persons and unemployment payment recipients spend in job search activities; and
2. The relation between time spent in job search activities and demographic and other characteristics of unemployed persons and unemployment benefit recipients.

b. Theoretical motivation

Various theoretical job search models have been developed to seek to understand the determinants of time spent in job search, and the methods of job search used by unemployed persons (for example, Burdett, 1980, and Holzer, 1988). These models share the same general features. In each time period, an unemployed person maximizes the sum of current and expected future utility. Expected future utility is a weighted average of utility from working and not working; where weights are the probabilities of being in each state in future time periods. An unemployed person has as choice variables in each time period the types of method of job search to use and amount of time devoted to each method of job search, and a reservation wage. Job search involves a trade-off. In the current time period it lowers utility as the time and money costs of job search must be deducted (respectively) from the individual's leisure time and non-wage income. At the same time, job search raises the probability

of receiving a job offer, and hence expected future utility by increasing the probability of employment, and/or the expected wage in employment.

It is generally considered that cost and productivity of different job search methods will vary for any given individual. (Productivity of a job search method is interpreted as the probability that a unit of time spent using that method will yield a job offer.) For example, using friends and relatives to find information about available jobs should be less costly, and may be more productive, than other job search methods (for example, Granovetter, 1974). Costs and productivities of each given job search method are also likely to vary between unemployed persons. For example, individuals with friends and relatives who live in regions with a high rate of unemployment, are less likely to find information about available jobs from that source.

From this type of theoretical job search model, it is possible to derive predictions on determinants of the time spent using a job search method. First, the effect of the level of costs and productivity on a search method is somewhat ambiguous (see for example, Holzer, 1988, pp.6-7). A higher cost of a job search method will reduce utility associated with a given amount of that type of search in the current period – and hence act to reduce time spent using that method of job search. But, since search costs of future unemployment are then also higher, it will raise expected future utility of employment – and this gives an incentive to spend a greater amount of time on job search in the current period. There is a similar trade-off with regard to productivity of a job search method. A higher productivity of a job search method will increase the probability of a job offer and hence employment, and therefore raise the return from job search in the current time period. But high productivity of job search also implies that future time spent unemployed is relatively more valuable in the number of job offers that will be generated – and this will give an incentive to expend less time in job search in the current period. Where current time period effects dominate, then the intuitive result is obtained – that higher cost of a job search method will reduce its use, and higher productivity of a job search method will increase its use.

Second, the amount of time that an individual spends using a job search method will be positively related to the average wage offer associated with job offers from using that method. This is because future utility of employment is obviously positively related to the wage earned. Third, use of any job search method will be negatively related to an individual's level of non-wage income. A higher level of non-wage income reduces the difference in utility between employment and unemployment, and hence reduces incentives for job search.

Fourth, income such as unemployment benefit payments that are only received while unemployed, by raising utility in unemployment relative to employment, in the simple job search model described above, will lower level of job search. However, it has been suggested that other factors may cause a positive relation between unemployment benefits and job search. This could occur where unemployed persons have limited monetary resources to finance job search, and unemployment payments are an extra source of income that allows an increase in expenditure on job search; or where receipt of unemployment benefits is tied to a job search requirement (Schmitt and Wadsworth, 1993). On the latter point though, it is also possible that job search requirements, by directing unemployed persons to satisfy minimum levels of 'observable' job search, may simply cause a redistribution of time between alternative job search methods (Van den Berg and van der Klaauw, 2002).

In this study, it is aggregate data on time spent on job search that can be examined, rather than on time spent using individual job search methods. For this type of analysis, the predictions from the model would be that aggregate time spent on job search would be:

- Negatively related (or possibly ambiguous) to cost of job search;
- Positively related (or possibly ambiguous) to productivity of job search;
- Positively related to average wage of job offers;
- Negatively related to non-wage income; and
- Negatively related (or possibly ambiguous) to level of unemployment benefit payments.

c. Literature review

For this study, the main point to take from a review of Australian and international literature on job search is the absence of research on time spent on job search activities. (In fact, there appears to be only one study that has presented data of this type – Holzer, 1988, which analyses job search of youth in the United States, presents a table of data (Table 1) that lists time spent in each of five types of job search methods during the survey month.) Hence, the empirical research reported in this study is providing an original contribution to what is known about the job search process.

There have, however, been quite a large number of empirical studies of types of job search methods used, and the effect of the number and type of job search methods used on the probability of obtaining job offers and shifting into employment. These studies have primarily been for the United States and United Kingdom, but also for other countries such as Australia, Canada and Austria. Several main findings emerge from the existing literature. Job finding success does appear to vary by job search method. There is a common finding that using informal methods such as friends and relatives to obtain information on available jobs is a relatively productive method of job search. On the other hand, it seems that job search conducted through public employment agencies is relatively less productive (for example, Holzer, 1988, Blau and Robins, 1990, Addison and Portugal, 2002). However, there is some conflicting evidence on the effect of public employment agencies – see Gregg and Schmitt, 1996. It seems likely that determinants of the job finding rate associated with alternative search methods vary across the business cycle – for example, Osberg (1993) finds that public employment agencies appear to be associated with positive outcomes during the trough of a recession, but not when the rate of unemployment is low. There is some evidence that job finding is positively related to the number of different types of job search methods used - for example, Boheim and Taylor (2001). Finally, an important issue in empirical analysis of effects of alternative job search methods is the extent to which results on job finding probabilities are reflecting differences in the

characteristics of unemployed persons who choose different job search methods, and/or the productivity of the search method. It appears that differences in characteristics of unemployed persons choosing different search methods are important in understanding why different methods appear to have different associated job finding probabilities. For example, Weber and Mahringer (2002) find that persons with fewer social contacts and lower ability are more likely to search using a public employment agency.

Australian studies of job search by youth have been undertaken by Miller and Volker (1987) using 1985 data from the Australian Longitudinal Survey, and by Heath (1999) using 1989-94 data from the Australian Youth Survey. These studies also suggest that use of a public employment agency (Commonwealth Employment Service) is less likely to result in job finding than using friends or relatives. In addition, Heath's study finds that the main predictors of job search methods used are receipt of unemployment benefits (increases likelihood of using public employment agency), level of education (more highly educated more likely to use friends and relatives), and the local labour market rate of unemployment (those living in higher unemployment regions less likely to use friends and relatives for job search).

d. Australia

d.i. Introduction

In this section, descriptive statistics on the amount of time spent on job search, and on the main correlates of job search, are presented. The analysis is undertaken using primarily the 1997 Time Use survey. The analysis is undertaken separately for persons classified as unemployed using the ABS definition, and for unemployment-related benefit payment recipients.

d.ii. Unemployed persons – ABS definition

Job search activity of all persons by labour force status is presented in Table 2. Unemployed persons are far more likely to participate in job search than others, and spend significantly more time on job search than those who are not in the labour force if they do participate[2]. There is little difference in time spent searching between those employed full-time and part-time, although part-time workers are slightly more likely to participate in job search.

Using only data for unemployed persons, Table 3 shows that the likelihood of job search increases slightly as the duration of unemployment increases. However, long-term unemployed who are engaged in job search, spend less time on that activity. Therefore, for the whole population of unemployed, there is no difference in time spent in job search by duration of unemployment spell.

Table 4 shows that, amongst unemployed persons, job search is more likely amongst unemployment benefit recipients. Those in receipt of unemployment benefits are almost twice as likely to engage in job search as unemployed persons who are not benefit recipients. However, given that unemployed persons chose to participate in job search, the time spent on job search does not vary by benefit status.

Job search behaviour of unemployed and non-unemployed persons appears to occur with a different timing by the day of the week. Table 5 shows that for unemployed persons, most job search takes place on weekdays. Less than 4 per cent of unemployed undertake job search on weekends. However, for non-unemployed persons there is no difference in the likelihood of search by day of week. However, if they do undertake job search, non-unemployed persons spend almost twice as long on job search on weekends compared with weekdays.

[2] There is no significant difference (at the 90 per cent confidence level) in the amount of time spent on job search by participants between unemployed persons, and those employed full-time or part-time.

To examine the main correlates of time spent in job search in more detail, and to investigate the independent effect of alternative explanatory factors, a Tobit model has been estimated for minutes spent on job search by unemployed persons on a range of demographic and labour market characteristics. The Tobit model is an appropriate estimation method where the dependent variable lies in a range that is bounded. This is the case with data on time spent on job search, since for all unemployed persons, there is a lower bound of zero minutes spent on job search. Estimation of a Tobit model produces two types of results – first, estimated effects of each explanatory variable on the probability that an unemployed persons spends time on job search; and second, estimated effects of each explanatory variable on the amount of job search undertaken for each person who undertakes job search. Results from estimation of the Tobit model are presented in Table 6.

Unemployed people with a degree or vocational qualification are more likely to undertake job search, and spend between 12 and 38 minutes longer on job search, than those who did not finish high school. In contrast, those who have a Year 12 qualification spend around 11 minutes less on job search than those who did not finish high school. Job search participants spend almost 30 minutes longer on job search on weekdays than weekends. Men are 10 per cent more likely than women to engage in job search, and spend almost 17 minutes longer on job search if they do participate. Young people (aged under 25 years) are 6 per cent more likely to engage in job search than older people. Unemployed persons living outside capital cities are less likely to engage in job search, and spend 14 to 15 minutes less on job search than those in capital cities. Those who are in receipt of unemployment benefits are 9 per cent more likely to look for work, and spend 14 minutes longer looking than non-recipients. The length of unemployment spell seems to have little impact on the likelihood or length of job search.

d.iii. Unemployment benefit recipients

Descriptive information on job search by unemployment benefit recipients in presented in Table 7. It shows that unemployment benefit recipients are far more likely to participate in job search than non-recipients, with around 17 per cent of benefit recipients participating in job search on any given day. However, there is no significant difference in the time spent on job search by participants by benefit status.

Table 8 shows that, amongst benefit recipients, those who are unemployed are most likely to engage in job search, with around 23 per cent participating in job search. Around 12 per cent of those employed part-time engage in some job search activity, and those people spend over 50 minutes searching.

To investigate the main correlates of time spent in job search, a Tobit model has been estimated for minutes of job search for benefit recipients on various demographic and labour market characteristics. The model also included as explanatory variables three dummy variables to account for the fact that some benefit recipients may not be required to search for work as a condition of their benefit receipt if they are either temporarily incapacitated, aged over 60 years (and thus in receipt of a Mature Age allowance which does not have a job search requirement), or engaged in training or study[3].

The results – reported in Table 9 - are similar to those for unemployed persons (ABS definition). Higher levels of education correspond to increased job search activity, men search more than women, those living outside capital cities search less, and more job search is undertaken on weekdays than weekends. Young people spend more time on job search than older people. In addition, those engaged in either part-time or full-time work are 6 to 9 per cent less likely to engage in job search than unemployed persons and spend between 11 and 19 minutes less looking for work. People who are not in the labour force are also less likely to engage in job search than unemployed

[3] The variable "currently injured or ill" is equal to one for survey respondents who answered that their current main activity was "own illness". The variable for "currently studying" is equal to one for survey respondents who answered that they were currently studying, either full-time, part-time or by correspondence.

persons. Being a student reduces the likelihood of job search by 8 per cent, and the time spent searching by 14 minutes per day.

d.iv. Time Use survey 1992

Descriptive information, and findings from tobit models for the main correlates of time spent in job search, are presented in Appendix Tables 3-6. In general, the same patterns are evident from descriptive evidence in 1992 as in 1997. For example, unemployed persons spend much larger amounts of time on job search than other labour force participants. However, some specific differences do also exist. Compared to 1997, unemployed persons in 1992 spent less time on job search – both in absolute terms and relative to persons in other labour force categories. Average total minutes spent on job search were 12.7 in 1992 and 16.6 in 1997. The increase across time occurs due both to a smaller proportion of unemployed searching in 1992, and a reduced number of minutes of job search for those who engage in this activity. By contrast, job search activity of unemployment benefit recipients declines between 1992 and 1997 – from 20.3 minutes to 14.9 minutes. This decline is primarily due to a decrease in the proportion of unemployment benefit recipients who engage in job search.

Findings on the main correlates of job search are also generally similar between 1992 and 1997, although the effects tend to be less significant in the earlier year. Education has a positive effect on job search – at least unemployed persons or benefit recipients with a degree/diploma spend more time on job search than other education categories. Age and region have similar effects in 1992 as 1997 but are almost entirely found to be not significant. As in the later time period, in 1992 males are found to spend more time on job search than females, and job search is higher on weekdays than weekends. Amongst unemployed persons, unemployment benefit recipients engage in significantly more job search activity than non-benefit recipients; and amongst benefit recipients unemployed persons spend significantly more time on job search than other labour force participants.

d.v. Summary

The results show that unemployed people and those on unemployment benefits are more likely to engage in job search activities and spend longer on job search than employed people, those not in the labour force, and non-unemployment benefit recipients. On any given day, 15 to 20 per cent of unemployed people or unemployment benefit recipients participate in job search, and spend around 80 to 100 minutes on job search activities if they do participate. Job search is more likely for those with higher levels of education, men, young people, and those living in capital cities. There is no relationship between the length of time spent unemployed and the likelihood or length of job search.

The findings on the main correlates of time spent in job search activities can be interpreted using the theoretical framework described above. That education attainment is positively correlated with job search activity is consistent with the predictions that where job search will be more productive, and yield higher wage offers, there will be a positive effect on time spent on job search. More highly educated workers are likely to receive more job offers for a given amount of time in job search, and job offers made to them are likely to be at higher wages, so job search is more productive. Another potential explanation for the correlation between job search and education attainment is however that the types of jobs for which more educated unemployed persons are applying require a longer application process. In this case the correlation might not indicate a higher number of job applications by more educated unemployed persons. The finding that age is inversely related to time spent on job search may reflect the relative expected productivity of job search – whereby younger unemployed perceive they are more likely to find a job than older unemployed (see for example, Borland, 2002). However, it may also be due to less stringent job search requirements for older unemployed persons who are receiving benefit payments. That unemployed benefit recipients spend more time in job search than non-benefit recipients seems likely to reflect job search requirements associated with benefit receipt. Finally, that time spent on job search does not vary with unemployment spell duration again may be due to unlimited benefit duration in

Australia and the nature of job search requirements associated with receipt of benefits – but nevertheless it is surprising that there is not some decline in search effort as unemployment duration lengthens.

e. International comparison

e.i. Introduction

It is of interest to consider how time spent on job search by unemployed persons in Australia compares with other industrialised economies. Such a cross-country comparison could potentially reveal the effect on job search activity of institutional differences – for example, effects of differences in levels or duration of unemployment benefits, or in job search requirements associated with receipt of benefit payments.

In this section, time spent in job search activities in Australia is compared with six other industrialised countries using data primarily from the 1990s. The main objective is to test whether cross-country differences exist in job search activity, and to seek to explain (at a simple level) differences between Australian and the other countries.

e.ii. Data issues

In order to be able to compare the job search behaviour of unemployed persons in each country, it is necessary to generate common variables across the surveys. In most cases, the population of unemployed persons in each survey was readily identifiable using variables describing labour force status and using standard international definitions of unemployment[4], as shown in Table 10. However, in the Canadian

[4] That is, a person is unemployed if they are currently without work, ready and willing to start work and actively looking for work.

survey, unemployed persons are defined as those who state that their main activity in the previous week was looking for work, while in the United States survey, unemployed persons are identified using a dummy variable for 'temporarily unemployed'. The sample of unemployed persons using these definitions ranges from just over 200 in the United States survey to 1900 in the Italian survey.

In order to examine the correlates of job search behaviour, it is also necessary to create variables for age, sex and education level of respondents, whether their diary day fell on a weekday or weekend, and a measure of local labour market conditions. Continuous and categorical variables for age from the various surveys were recoded into the following age groups: 16-24 years; 25-34 years; 35-44 years; 45-54 years; and 55-64 years. Dummy variables were also generated for males and for the diary day being a weekday.

A three-level educational classification was generated using guidelines developed for the Multinational Time Use Study and based on the International Standard Classification of Education. The education categories used are: did not complete final year of secondary school; completed final year of secondary school; post-school qualification[5].

Local labour market conditions are controlled for using an index of the annual unemployment rate in the survey year compared to the average annual unemployment rate for the previous ten years. The index acts as a proxy for the state of the business cycle. Data on unemployment rates were obtained from the OECD Employment Database, and the index was computed separately for men aged under 25, women aged under 25, men aged 25 and older, and women aged 25 and older. In the case of Italy, unemployment data were only available for eight years prior to 1989, so the index is computed as the 1989 unemployment rate divided by the average from 1981

[5] The Multinational Time Use Study (MTUS) has created a concorded international dataset using a large number of international time use surveys, including the surveys used in this paper. The method for converting educational classifications in the original surveys into the concorded variable for education used in this paper is detailed in the MTUS User's Guide and Manual, Appendix 6, and available electronically at http://iserwww.essex.ac.uk/mtus/world5.5/appendix6.php.

to 1988. In the case of Germany, data by age and gender were not available prior to 1992, so economy-wide unemployment rate is used. No index could be calculated for Austria because OECD unemployment rate figures are not available prior to 1993.

e.iii. Findings

Table 11 presents descriptive statistics on the sample of unemployed persons for each country. The samples are relatively old in Germany and young in Italy. Men and women are represented in approximately equal proportion in the combined sample. The distribution of educational qualifications differs quite markedly across the sample: unemployed people are relatively well-educated in the United Kingdom and the United States, and relatively poorly-educated in Canada, Austria and Italy. The unemployment index shows that the unemployment rate was historically high in Australia (1992), Canada and Italy, and historically low in the UK. In other countries, the unemployment rate was close to average levels.

Descriptive information on time spent on job search by unemployed persons in each country is presented in Table 12. The proportion of unemployed persons participating in job search is higher in Australia than other countries. On the other hand, the amount of time spent in job search by unemployed persons who engage in search in Australia is relatively low compared to other countries. For the whole population the former effect dominates the latter effect – so that average minutes of job search are higher in any of the other countries than Canada.

In order to test for cross-country differences in time spent on job search, controlling for differences in the characteristics of unemployed persons, a Tobit model for minutes of job search is estimated. The model is estimated on a data set that pools observations across countries. The sample used is unemployed persons aged 16-64 years from all surveys except Austria (excluded because no data are available for calculating the unemployment index). Similar explanatory variables to the analysis for Australia are included, as well as dummy variables for each country.

Results from estimation of the Tobit model are reported in Table 13. Unemployed persons with post-school qualifications are 5 per cent more likely to undertake job search, and spend 12 minutes longer on job search than those who did not finish high school. Men also spend about 12 minutes longer on job search than women. Those aged over 55 years are around 3 per cent less likely to participate in job search than younger people. Job search is 5 per cent more likely on weekdays than weekends, and unemployed people spend 13 minutes longer searching on weekdays given participating in job search on their diary day. The unemployment index is positively correlated with job search, although the relationship is not statistically significant.

Controlling for differences in individual characteristics, unemployed persons in all other countries are less likely to participate in job search, and spend less time searching, than those in Australia. Unemployed persons in other countries are between 2 and 9 per cent less likely to engaged in job search than in Australia; and participants in job search in Australia spend between 5 and 25 minutes more in job search than in the other countries.

An alternative perspective on differences in time spent on job search activities between Australia and the other countries can be obtained by decomposing the source of differences in time spent on job search. The Oaxaca approach that is applied in this study decomposes the total difference in time spent on job search into two components: that due to cross-country differences in personal characteristics of the unemployed populations; and that due to cross-country differences in the impact that different personal characteristics have on time spent on job search.

Suppose that the amount of time spent on job search in country t (y_{it}) is given by:

$$y^*_{it} = x_{it}'\beta_t + \varepsilon_{it} \qquad (1)$$

$$where\ y_{it} = 0\ if\ \ y^*_{it} \le 0$$

$$y_{it} = 0\ if\ \ y^*_{it} \le 0$$

where it is assumed that the minutes of work at non-standard times y_{it} is observed only if some latent variable $y*_{it}$ is greater than zero. The latent variable can be expressed as a linear function of the explanatory variables x_{it} and some normally distributed random error term ε_{it}. The model is described as follows:

$$y*_{it} = x_{it}'\beta_t + \varepsilon_{it} \tag{2}$$

$$where\ y_{it} = 0\ if\ \ y*_{it} \le 0$$

$$y_{it} = 0\ if\ \ y*_{it} \le 0$$

Following Even and Macpherson (1993), and Doiron and Riddell (1994), a non-linear version of the Oaxaca (1973) decomposition is adopted, using the mean predicted values from the Tobit model. The mean predicted difference in minutes spent on job search can be decomposed as follows:

$$\hat{u}_{AUS} - \hat{u}_{CO} = (\hat{u}^*_{AUS} - \hat{u}^*_{CO}) + (\hat{u}_{AUS} - \hat{u}^*_{AUS}) + (\hat{u}_{CO} - \hat{u}^*_{CO}) \tag{3}$$

where

$$\hat{\mu}_t = \frac{1}{N_t}\sum_{i=1}^{N_t} E(y_{it} \mid x_{it}) = \frac{1}{N_t}\sum_{i=1}^{N_t} \Phi\left(\frac{x_{it}'\hat{\beta}_t}{\hat{\sigma}_t}\right) x_{it}'\hat{\beta}_t + \hat{\sigma}_t \phi\left(\frac{x_{it}'\hat{\beta}_t}{\hat{\sigma}_t}\right)$$

$$\hat{\mu}*_t = \frac{1}{N_t}\sum_{i=1}^{N_t} \Phi\left(\frac{x_{it}'\hat{\beta}*}{\hat{\sigma}*}\right) x_{it}'\hat{\beta}* + \hat{\sigma}* \phi\left(\frac{x_{it}'\hat{\beta}*}{\hat{\sigma}*}\right)$$

$\hat{\mu}_t$ is the mean predicted value for minutes of spent in job search using the parameter estimates for country t, $\hat{\mu}^*_t$ is the mean predicted value for minutes of job search using reference parameter estimates, $\Phi(.)$ and $\phi(.)$ are the standard normal cumulative and density functions respectively, and $\hat{\beta}*$ and $\hat{\sigma}*$ are reference parameter estimates.

The first term on the right hand side of equation (2) is the 'explained' component due to differences in average characteristics of the unemployed populations between Australian and other countries, while the second and third terms represent the

'unexplained' component due to differences between Australia and the other countries in the coefficients – that is, the effects that characteristics have on time spent on job search.

Tobit models were estimated separately for Australia, and for the other countries pooled. The resulting coefficient estimates were then used to estimate a predicted value for minutes of job search for unemployed persons. Mean predicted values for the whole unemployed population were calculated by taking the mean of predicted values. Standard errors for the decomposition components are estimated using a bootstrap method. The estimation procedure was repeated 5,000 times with a bootstrap sample (with replacement) of the same size as the complete sample.

Results from the Tobit models are reported in Table 14. The decomposition findings are reported in Table 15. The main finding is that it is differences in the effects of characteristics on job search, rather than differences in characteristics, that explain why minutes of job search are higher for unemployed persons in Australia than in other countries. This finding is statistically significant, and is independent of the reference coefficient vector used in the decomposition.

One possible interpretation of the differences in coefficients is that they represent institutional differences between Australia and other countries. (Examples of application of this type of approach to analysis of effects of institutions on labour market outcomes are Gregory and Daly, 1990, and Blau and Kahn, 1996.) For example, stricter job search requirements in a country should mean that unemployed persons in that country will spend more time on job search than unemployed persons in a country with less strict requirements. To the extent that the stricter job search requirement applies universally across unemployed persons, this would then be manifested in a larger estimated effect of any characteristic on time spent on job search in the country with the stricter job search requirement. That is, suppose age is an explanatory variable for job search; then unemployed persons of any age should spend more time on job search in the country with stricter job search requirements.

A possible further development of the cross-country analysis would be to examine the correlation between time spent on job search in each country and characteristics of unemployment payment systems in each country. For example, an interesting exercise would be to test whether the pattern of time spent on job search by duration of unemployment spell varies between countries with time limits on receipt of unemployment payments, and unlimited duration of payments. Unfortunately, due to the small number of countries for which data on job search are available, and absence of data on key variables for many countries (for example, data on time spent on job search by duration of unemployment are available only for Australia), such analysis would be of limited value.

4. Social participation

a. Objectives

This section examines time spent in activities apart from job search by unemployed persons in Australia. Specific objectives are:

1. To examine time spent on social and economic participation by unemployed persons;
2. To determine to what extent differences in time use between unemployed persons and non-unemployed persons are attributable to differences in their personal characteristics.

In undertaking this general analysis of time use by unemployed persons, four main aggregate categories of time use will be used:

i. Non-market production activities – includes domestic work (such as preparing meals, cleaning, home maintenance), care of adults and children and voluntary work;

ii. Employment and pathways to employment – includes employment, job search, education and training;

iii. Social connectedness – includes socialising and talking, attending entertainment and sports events, religious participation, community participation (includes attending meetings, voting, jury duty), and participating in formal and informal sport and games; and

iv. Time spent alone.

b. Findings

The analysis of social participation begins by comparing outcomes between labour force categories. The top panel of Table 16 presents descriptive information on minutes spent in different activities, and in the bottom panel Tobit model adjusted estimates of the difference in time spent in each type of activity relative to unemployed persons are shown. The complete Tobit model estimates are presented in Table 17.

Unemployed persons spend significantly more time in non-market production than either full-time or part-time workers, but the same amount of time as persons out of the labour force. Not surprisingly, full-time and part-time workers spend significantly more time in employment-related activities than unemployed, but unemployed spend significantly more time than persons out of the labour force. Most of the differences appear to be due to time in employment and job search, rather than education and training. Unemployed persons spend more time in social participation than full-time or part-time workers, and the same amount of time as persons out of the labour force. It appears the difference is mainly due to time spent socialising and involved in sports/games/courses. Finally, unemployed persons spend the same amount of time alone as the employed population, but significantly less time alone than persons out of the labour force. Based on an analysis of time spent in undertaking social activities, it does not seem that unemployed persons in Australia are at a disadvantage in social connectedness, or are isolated relative to the employed population. Of course, there is much that remains hidden in data on time spent in different activities – to complete the picture it would also be necessary to consider the type or quality of activities

being undertaken. (Appendix Table 7 presents disaggregated information on time spent in activities within each of the main categories.)

A second perspective is from a comparison on the basis of whether an unemployed person is a benefit recipient. Results from this comparison are presented in Table 18. No differences are apparent in non-market production, social connectedness, or employment-related activities. But it does appear that unemployed benefit recipients spend significantly less time alone than those who do not receive benefits.

Finally, it is possible to consider how participation in other activities varies with duration of unemployment spell. Descriptive results are presented in Table 19, and the full Tobit model estimates in Table 20. The main feature apparent is that very long-term unemployed (104+ weeks) spend less time in non-market production, employment-related activities, and social participation than short-term unemployed (less than 26 weeks); but there is no difference in time spent alone. The difference in employment-related time seems to be due to both less time in employment and in education and training. Similarly, the smaller amount of time spent in social participation seems to be due to less time spent in all types of those activities. Medium duration of unemployment spell only differs from short-term unemployment in time spent on employment-related activities. These findings do appear to provide some evidence of lower levels of engagement and social participation by very long-term unemployed.

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Table 1: Time use survey details

Country	Year	Survey size (days)	Survey type
Austria	1991	23,442	1 day diary
Canada	1992	8,996	1 day recall – telephone
Germany	1992	24,028	2 day diary – consecutive days
Italy	1989	32,690	3 day diary – weekday, Sat, Sun
UK	2000	18,213	2 day diary – weekday, weekend day
US	1992/94	7,863	1 day recall – telephone
Australia	1992	13,937	2 day diary – consecutive days
Australia	1997	14,315	2 day diary – consecutive days

Table 2: Job search by labour force status, all persons, 1997

	Number of diary days	Average minutes of job search (all persons)	Percent who participate in job search	Average minutes of job search (participants only)
Full time	6275	0.32	0.4	73.27
Part time	2526	0.98	1.4	72.14
Unemployed	706	16.64	17.7	94.25
NILF	4808	0.27	0.6	48.39

Note: all estimates are weighted using ABS weights
NILF = not in the labour force

Table 3: Job search by duration of unemployment, unemployed persons, 1997

	Number of diary days	Average minutes of job search (all persons)	Percent who participate in job search	Average minutes of job search (participants only)
1-26 weeks	436	17.45	15.9	110.01
27-103 weeks	158	13.77	19.4	70.91
104+ weeks	112	17.57	21.8	80.62

Note: all estimates are weighted using ABS weights

Table 4: Job search by benefit status, unemployed persons, 1997

	Number of diary days	Average minutes of job search (all persons)	Percent who participate in job search	Average minutes of job search (participants only)
No benefits	374	11.31	12.2	93.08
Receives benefits	332	21.49	22.7	94.82

Note: all estimates are weighted using ABS weights
Benefits = Newstart, Jobsearch, Mature Age or Youth Training allowance

Table 5: Job search on weekdays and weekends, by unemployed status

		Number of diary days	Average minutes of job search (all persons)	Percent who participate in job search	Average minutes of job search (participants only)
Weekday	Non-unemployed	9846	0.45	0.7	60.90
	Unemployed	519	18.89	19.9	95.19
Weekend	Non-unemployed	3763	0.34	0.3	115.91
	Unemployed	187	3.34	3.7	89.29

Note: all estimates are weighted using ABS weights

Table 6: Tobit regression results, minutes of job search by unemployed persons, weighted

	Marginal effect on probability of job search participation	Marginal effect on minutes spent searching given participates	p-value for t-test of underlying coefficients
Degree	0.2706 **	37.55 **	0.000
Diploma	0.0614	9.25	0.151
Vocational	0.0804 **	12.14 **	0.017
Year 12	-0.0637 **	-11.16 **	0.047
Did not finish high school (omitted)	--	--	--
Weekday	0.1560 **	29.15 **	0.000
Born in NES country	0.0471	7.24	0.153
Male	0.1016 **	16.66 **	0.000
Aged 15-24	0.0568 *	8.93 *	0.083
Aged 25-34	0.0257	4.04	0.449
Aged 35-44 (omitted)	--	--	--
Aged 45-54	-0.0150	-2.48	0.780
Aged 55 and over	-0.0268	-4.49	0.494
Capital city (omitted)	--	--	--
Urban	-0.0776 **	-13.53 **	0.004
Rural	-0.0812 **	-15.41 **	0.016
Benefit recipient	0.0891 **	14.41 **	0.001
Unemployed 1-26 weeks (omitted)	--	--	--
Unemployed 26-103 weeks	-0.0051	-0.82	0.861
Unemployed 104+ weeks	0.0342	5.32	0.310
Pseudo-R^2	0.0667		
Sample size	709		

Note: Marginal effects for dummy variables show the effect of changing the dummy variable from zero to one, relative to the omitted category.
** indicates that the underlying coefficients are significant at 95% confidence level; * indicates significance at 90% confidence level.
Results are weighted using ABS weights

Table 7: Job search by unemployment benefit status, all persons, 1997

	Number of diary days	Average minutes of job search (all persons)	Percent who participate in job search	Average minutes of job search (participants only)
Benefit recipient	575	14.89	17.1	86.85
No benefit	13740	0.66	0.8	79.58

Note: all estimates are weighted using ABS weights

Table 8: Job search by employment status, unemployment benefit recipients, 1997

	Number of diary days	Average minutes of job search (all persons)	Percent who participate in job search	Average minutes of job search (participants only)
Full-time	24	7.66	4.7	160.00[a]
Part-time	108	6.30	12.4	50.76
Unemployed	332	21.49	22.7	94.82
Not in labour force	111	1.50	4.8	31.38

Note: all estimates are weighted using ABS weights
a: number of participants is two, so estimate has high standard error

Table 9: Tobit regression results, minutes of job search by unemployment benefit recipients, weighted

	Marginal effect on probability of job search participation	Marginal effect on minutes spent searching given participates	p-value for t-test of underlying coefficients
Degree	0.1354 **	17.75 **	0.022
Diploma	0.0627	8.80	0.141
Vocational	0.0527	7.67	0.102
Year 12	-0.0008	-0.12	0.984
Did not finish HS (omitted)	--	--	--
Weekday	0.1352 **	24.93 **	0.000
Born in NES country	-0.0205	-3.27	0.524
Male	0.0855 **	14.08 **	0.000
Aged 15-24	0.0821 **	11.85 **	0.023
Aged 25-34	0.0646 *	9.15 *	0.095
Aged 35-44 (omitted)	--	--	--
Aged 45-54	-0.0109	-1.72	0.817
Aged 55-59	0.0293	4.28	0.538
Aged over 60 years	-0.0873 **	-18.14 **	0.042
Capital city (omitted)	--	--	--
Urban	-0.0742 **	-12.32 **	0.002
Rural	-0.1038 **	-21.35 **	0.001
Employed full-time	-0.0846 *	-19.09 *	0.078
Employed part-time	-0.0621 **	-10.77 **	0.023
Unemployed (omitted)	--	--	--
Not in the labour force	-0.0955 **	-18.05 **	0.004
Currently injured or ill	-0.0641	-12.45	0.358
Currently studying	-0.0756 **	-14.43 **	0.027
Pseudo-R2		0.0792	
N		575	

Note: Marginal effects for dummy variables show the effect of changing the dummy variable from zero to one, relative to the omitted category.
** indicates that the underlying coefficients are significant at 95% confidence level; * indicates significance at 90% confidence level.
Results are weighted using ABS weights

Table 10: Defining unemployed persons

Country	Year	Definition of unemployed persons	No. unemployed aged 16-64
Austria	1991	Unemployed (b9a=2)	323
Canada	1992	Looking for work last week (act7days=2)	381
Germany	1992	Unemployed (e28=3 or e281=2)	1286
Italy	1989	Unemployed (occupati=2 or 3)	1900
UK	2000	Unemployed (empstat2=3)	378
US	1992/94	Temporarily unemployed (unemp=3)	208
Australia	1992	Unemployed (empstat=3)	1035
Australia	1997	Unemployed (empstat=3)	704

Table 11: Descriptive statistics - unemployed persons 16-64 years

Country	Year	Sample size	Age	Male %	Weekday %	No HS %	HS %	Post-school %	UE index
Austria	1991	323	38.6	54.5	63.5	82.9	14.9	2.2	-
Canada	1992	381	32.7	64.8	69.3	74.5	20.5	5.0	1.20
Germany	1992	1286	43.3	45.6	74.5	39.6	43.2	17.4	1.06
Italy	1989	1900	26.9	45.0	86.8	59.5	34.1	6.4	1.19
UK	2000	378	32.6	57.1	49.7	1.8	81.5	16.7	0.71
US	1992/94	208	37.4	43.8	70.3	17.2	45.7	37.1	1.04
Australia	1992	1035	32.1	56.7	73.4	40.3	54.1	5.6	1.37
Australia	1997	704	32.4	49.1	64.9	45.0	45.9	9.1	1.02
TOTAL	-	6215	33.4	49.9	74.7	45.0	42.1	12.9	1.14

Table 12: Minutes of job search by unemployed persons 16-64 years

Country	Year	Average minutes (all)	Participants %	Average minutes (participants)
Austria	1991	11.2	8.7	129.1
Canada	1992	20.5	13.4	153.1
Germany	1992	6.1	7.4	83.1
Italy	1989	3.4	2.7	126.0
UK	2000	3.7	5.8	63.6
USA	1992/94	14.2	8.2	173.2
Australia	1992	13.2	16.4	80.4
Australia	1997	14.8	15.6	94.8

Table 13: Marginal effects - Tobit model

	Probability of participating	Minutes if participate	p-value
Did not finish high school (omitted)	--	--	--
Finished high school	0.0132*	3.2*	0.066
Post-school qualifications	0.0535**	11.7**	0.000
Male	0.0502**	12.2**	0.000
Age 16-24	0.0011	0.3	0.904
Age 25-34	0.0045	1.1	0.630
Age 35-44 (omitted)	--	--	--
Age 45-54	0.0017	0.4	0.875
Age 55-64	-0.0298**	-8.1**	0.006
Weekday	0.0507**	13.9**	0.000
Unemployment index	0.0207	5.1	0.299
Australia (omitted)	--	--	--
US	-0.0282**	-7.8**	0.048
UK	-0.0444**	-13.4**	0.001
Italy	-0.0891**	-24.5**	0.000
Canada	-0.0187*	-4.9*	0.083
Germany	-0.0397**	-10.7**	0.000

Table 14: Marginal effects - Tobit models

	Australia		Other countries[a]	
	Probability of participating	Minutes if participate	Probability of participating	Minutes if participate
Did not finish high school (omitted)	--	--	--	--
Finished high school	0.0322**	4.8**	0.0086	3.0
Post-school qualifications	0.1177**	16.1**	0.0654**	19.2**
Male	0.1092**	16.6**	0.0312**	10.8**
Age 16-24	0.0031	0.5	-0.0192**	-6.9**
Age 25-34	0.0241	3.6	-0.0077	-2.8
Age 35-44 (omitted)	--	--	--	--
Age 45-54	-0.0212	-3.3	0.0075	2.6
Age 55-64	0.0131	1.9	-0.0365**	-15.7**
Weekday	0.1624**	28.0**	0.0139**	5.1**
Unemployment index	0.0226	3.4	-0.0213	-7.4

a. Includes US, UK, Italy, Canada and Germany

Table 15: Proportion of difference in job search between Australia and other countries due to characteristics and coefficients

	Australia coefficients	Weighted mean coefficients	Others coefficients
Characteristics	35.5**	-5.2	-27.8**
Coefficients	64.5**	105.2**	127.8**

** indicates that the component is significantly different from zero at 95% confidence level, where standard errors calculated using bootstrap methods.

Table 16: Average minutes per day spent on various activities by labour force status, weighted

	Unemployed	Full time	Part time	Not in LF
Non-market production activities	**200.1**	**126.0**	**214.5**	**257.2**
Domestic work	146.1	91.9	147.4	189.9
Child care	29.0	20.4	42.8	38.0
Voluntary work and care	25.0	13.8	24.2	29.3
Employment and pathways to employment	**81.7**	**388.4**	**217.8**	**43.5**
Employment and job search	46.7	383.6	169.6	4.6
Education and training	35.0	4.7	48.2	38.9
Social connectedness	**94.7**	**67.2**	**88.7**	**87.7**
Socialising	18.9	8.8	11.4	18.9
Entertainment/sports/religious events	14.7	10.3	12.9	12.8
Community participation	5.7	8.0	10.8	9.1
Sport, games and courses	15.4	10.6	11.6	14.2
Talking (including phone)	40.0	29.4	42.0	38.9
Time spent alone	**271.6**	**234.1**	**195.4**	**286.6**

	Full time	Part time	Not in LF
Non-market production activities	-79.5**	-31.7**	+6.7
Employment and pathways to employment	+203.7**	+133.2**	-42.8**
Social connectedness	-16.2**	-4.1*	-3.4
Time spent alone	+10.8	-3.3	-34.4**

Table 17: Marginal effects - Tobit models of minutes spent by activity

	Non-market production		Pathways to employment		Social connectedness		Time spent alone	
	Probability of participation	Minutes if participant	Probability of participation	Minutes if participant	Probability of participation	Minutes if participant	Probability of participation	Minutes if participant
Employed full-time	-0.175**	-78.9**	0.553**	196.6**	-0.100**	-16.2**	0.024*	12.0*
Employed part-time	-0.058**	-25.3**	0.313**	115.5**	-0.0268	-4.2*	0.002	1.1
Unemployed (omitted)	--	--	--	--	--	--	--	--
Not in the labour force	0.034**	17.3**	-0.186**	-53.0**	-0.021	-3.4	-0.062**	-30.2**
Married	0.066**	30.7**	-0.030**	-9.0**	0.002	0.3	-0.404**	-252.5**
Has children under 15 years	0.081**	41.4**	0.024**	7.0**	-0.006	-1.0	-0.153**	-75.3**
Male	-0.127**	-61.9**	0.123**	36.2**	-0.048**	-7.9**	0.023**	11.7**
Age 15-24	-0.191**	-68.3**	0.074**	22.6**	0.070**	12.3**	-0.364**	-146.0**
Age 25-34	-0.007	-3.4	0.003	0.8	-0.007	-1.1	-0.121**	-55.2**
Age 35-44 (omitted)	--	--	--	--	--	--	--	--
Age 45-54	-0.000	-0.2	-0.036**	-10.4**	0.006	1.0	0.021	10.6
Age 55+	-0.027**	-12.7**	-0.177**	-49.4**	0.007	1.1	0.058**	30.3**
Capital city	--	--	--	--	--	--	--	--
Urban	0.029**	15.1**	-0.049**	-14.2**	-0.013	0.2	0.021**	10.7**
Rural	0.046**	25.8**	-0.009	-2.6	-0.026**	-4.1**	-0.012	-5.9
Currently injured or ill	-0.120**	-43.3**	-0.449**	-123.0**	-0.003	-0.5	0.021	10.6
Currently studying	-0.120**	-45.4**	0.260**	91.1**	0.004	0.7	-0.065**	-30.6**
Degree	0.045**	25.5**	0.003	0.8	-0.050**	8.7**	0.039**	20.5**
Diploma	0.027**	14.7**	0.030**	9.0**	0.031**	5.3**	0.035**	18.1**
Vocational qualification	0.033**	17.3**	0.013	3.9	0.020**	3.1**	0.017**	8.9**
Year 12	0.028**	14.6**	-0.006	-1.8	0.035**	5.9*	0.018*	9.3*
Did not finish high school	--	--	--	--	--	--	--	--
Weekday	-0.039**	-20.4**	0.435**	122.4**	-0.132**	-23.7**	0.109**	51.6**

** indicates underlying coefficient is significant at 95% confidence level; * indicates significance at 90% confidence level.

Table 18: Average minutes per day spent on various activities by unemployed persons, by benefit status, weighted

	Benefits	No benefits
Non-market production activities	**185.6**	**215.9**
Domestic work	139.5	153.3
Child care	14.4	45.0
Voluntary work and care	31.7	17.6
Employment and pathways to employment	**66.5**	**98.4**
Employment and job search	48.9	44.5
Education and training	17.8	53.8
Social connectedness	**89.4**	**100.4**
Socialising	14.4	23.9
Entertainment/sports/religious events	12.0	17.6
Community participation	5.5	5.8
Sport, games and courses	15.3	15.6
Talking (including phone)	42.2	37.6
Time spent alone	**170.4**	**363.9**

	Benefits
Non-market production activities	+6.3
Employment and pathways to employment	+6.9
Social connectedness	-0.6
Time spent alone	+50.7**

Table 19: Average minutes per day spent on various activities by unemployed persons, by length of unemployment spell, weighted

	1-26 weeks	26-103 weeks	104+ weeks
Non-market production activities	**198.5**	**201.7**	**203.6**
Domestic work	141.7	153.0	152.6
Child care	30.8	28.2	23.6
Voluntary work and care	26.0	20.5	27.3
Employment and pathways to employment	**107.0**	**40.0**	**45.8**
Employment and job search	63.1	21.5	20.9
Education and training	43.9	18.5	25.0
Social connectedness	**100.8**	**101.9**	**62.2**
Socialising	18.0	24.3	15.0
Entertainment/sports/religious events	15.0	20.9	5.0
Community participation	7.0	4.4	2.4
Sport, games and courses	15.8	17.8	10.5
Talking (including phone)	44.9	34.5	29.5
Time spent alone	**261.5**	**258.6**	**326.8**

	26-103 weeks	104+ weeks
Non-market production activities	-4.9	-25.3**
Employment and pathways to employment	-32.9**	-26.6**
Social connectedness	+3.7	-22.4**
Time spent alone	-22.3	+8.0

Table 20: Marginal effects - Tobit model

	Non-market production		Pathways to employment		Social connectedness		Time spent alone	
	Probability of participation	Minutes if participant	Probability of participation	Minutes if participant	Probability of participation	Minutes if participant	Probability of participation	Minutes if participant
Unemp 1-26 wks (omitted)	--	--	--	--	--	--	--	--
Unemp 26-103 weeks	-0.015	-7.9	-0.117**	-26.1**	0.018	3.5	-0.045	-23.0
Unemp 104+ weeks	-0.055**	-25.8**	-0.110**	-24.6**	-0.127**	-22.3**	0.013	7.2
Benefit recipient	0.002	1.0	0.068*	15.2*	-0.006	-1.1	0.099**	52.2**
Age 15-24 years	-0.163**	-75.3**	0.180**	41.0**	0.026	5.2	-0.240**	-119.5**
Age 25-34 years	-0.063**	-29.2**	0.035	7.9	0.029	5.9	-0.073*	-36.7*
Age 35-44 years (omitted)	--	--	--	--	--	--	--	--
Age 45-54 years	0.065*	44.6*	-0.007	-1.5	0.006	1.2	0.187**	140.4**
Age 55+ years	0.044	26.8	-0.071	-15.9	0.022	4.5	-0.073	-35.7
Married	0.068**	37.6**	0.110**	24.8**	-0.024	-4.8	-0.285**	-145.0**
Has children under 15 years	0.100**	54.6**	0.025	5.7	-0.044	-8.7	-0.215**	-112.3**
Male	-0.111**	-61.0**	0.121**	27.2**	-0.070**	-13.9**	0.016**	8.3**
Capital city (omitted)	--	--	--	--	--	--	--	--
Urban	0.025	13.8	-0.098**	-22.0**	-0.073**	-13.6**	-0.035	-17.9
Rural	0.100**	79.1**	-0.138**	-31.0**	-0.127**	-22.0**	-0.131**	-61.0**
Currently injured or ill	-0.087	-35.6	-0.181	-41.8	-0.035	-6.6	0.098	61.2
Currently studying	-0.103**	-44.1**	0.404**	105.5**	-0.018	-3.5	-0.003	-1.4
Degree	0.038	23.2	0.188**	44.4**	-0.003	-0.6	0.034	19.0
Diploma	0.010	5.4	0.184**	43.3**	-0.009	-1.7	0.180**	125.8**
Vocational qualification	0.009	4.7	0.162**	37.4**	-0.077*	-14.3*	0.054	30.3
Year 12	-0.003	-1.8	-0.064	-14.2	0.046	9.6	0.034	18.4
Did not finish high school	--	--	--	--	--	--	--	--
Weekday	0.027	13.6	0.284**	65.7**	-0.021	-4.3	0.223**	105.7**

** indicates underlying coefficient is significant at 95% confidence level; * indicates significance at 90% confidence level.

Appendix Table 1: Mean characteristics of unemployed persons

	Unemployed	All
Age 15-24	0.377	0.185
Age 25-34	0.208	0.200
Age 45-54	0.042	0.075
Age 55+	0.090	0.251
Employed full-time	-	0.425
Employed part-time	-	0.167
Not in the labour force	-	0.350
Urban	0.247	0.219
Rural	0.099	0.146
Currently injured or ill	0.011	0.028
Currently studying	0.177	0.162
Married	0.411	0.621
Has children under 15 years	0.453	0.436
Degree	0.066	0.119
Diploma or certificate	0.098	0.092
Vocational qualification	0.208	0.236
Year 12	0.179	0.156
Male	0.560	0.493
Weekday	0.720	0.714

Appendix Table 2: Mean characteristics of unemployed persons

	All unemployed	Unemp 1-26 wks	Unemp 26-103 weeks	Unemp 104+ weeks	Benefit recipients
Unemp 1-26 wks	0.608	1.000	0.000	0.000	0.492
Unemp 26-103 weeks	0.227	0.000	1.000	0.000	0.289
Unemp 104+ weeks	0.165	0.000	0.000	1.000	0.218
Benefit recipient	0.523	0.424	0.666	0.691	1.000
Age 15-24 years	0.377	0.453	0.292	0.216	0.335
Age 25-34 years	0.208	0.199	0.243	0.193	0.173
Age 35-44 years	0.283	0.245	0.351	0.331	0.307
Age 45-54 years	0.042	0.028	0.043	0.092	0.063
Age 55+ years	0.090	0.075	0.071	0.168	0.122
Male	0.560	0.509	0.636	0.642	0.716
Married	0.411	0.397	0.409	0.464	0.361
Has children under 15 years	0.453	0.466	0.448	0.409	0.308
Capital city	0.654	0.694	0.603	0.580	0.604
Urban	0.247	0.213	0.340	0.242	0.303
Rural	0.099	0.093	0.057	0.178	0.093
Currently injured or ill	0.011	0.008	0.015	0.018	0.006
Currently studying	0.177	0.223	0.112	0.102	0.089
Degree	0.066	0.058	0.108	0.036	0.047
Diploma	0.098	0.103	0.102	0.073	0.127
Vocational qualification	0.208	0.212	0.200	0.205	0.213
Year 12	0.179	0.167	0.184	0.218	0.184
Did not finish high school	0.449	0.460	0.406	0.468	0.430
Weekday	0.720	0.727	0.656	0.782	0.736

Appendix Table 3: Job search by labour force status, all persons, 1992

	Number of diary days	Average minutes of job search (all persons)	Percent who participate in job search	Average minutes of job search (participants only)
Full time	5930	0.32	0.4	91.43
Part time	2306	0.40	0.9	44.05
Unemployed	1080	12.72	15.9	79.92
NILF	4261	0.23	0.3	77.14

Note: all estimates are weighted using ABS weights
NILF = not in the labour force

Appendix Table 4: Job search by unemployment benefit status, all persons, 1992

	Number of diary days	Average minutes of job search (all persons)	Percent who participate in job search	Average minutes of job search (participants only)
Benefit recipient	564	20.26	24.6	82.2
No benefit	13373	0.47	0.7	70.2

Note: all estimates are weighted using ABS weights

Appendix Table 5: Tobit regression results, minutes of job search by unemployed persons, 1992, weighted

	Marginal effect on probability of job search participation	Marginal effect on minutes spent searching given participates	p-value for t-test of underlying coefficients
Degree	0.1506 **	18.99 **	0.004
Diploma	0.0617 **	8.49 **	0.028
Vocational	0.0221	3.15	0.421
Year 12	0.0369	5.18	0.204
Did not finish high school (omitted)	--	--	--
Weekday	0.1446 **	24.59 **	0.000
Born in NES country	0.0041	0.60	0.879
Male	0.0625 **	9.32 **	0.002
Aged 15-24	0.0105	1.54	0.701
Aged 25-34	0.0302 **	4.30	0.302
Aged 35-44 (omitted)	--	--	--
Aged 45-54	-0.0051	-0.76	0.882
Aged 55 and over	0.0239	3.39	0.541
Capital city (omitted)	--	--	--
Urban	-0.0213	-3.18	0.271
Rural	-0.0206	-3.16	0.519
Benefit recipient	0.1576 **	22.36 **	0.000
Pseudo-R^2		0.0637	
Sample size		1080	

Note: Marginal effects for dummy variables show the effect of changing the dummy variable from zero to one, relative to the omitted category.
** indicates that the underlying coefficients are significant at 95% confidence level; * indicates significance at 90% confidence level.
Results are weighted using ABS weights

Appendix Table 6: Tobit regression results, minutes of job search by unemployment benefit recipients, 1992, weighted

	Marginal effect on probability of job search participation	Marginal effect on minutes spent searching given participates	p-value for t-test of underlying coefficients
Degree	0.2011 **	21.60 **	0.029
Diploma	0.0568	6.31	0.226
Vocational	-0.0117	-1.35	0.762
Year 12	-0.0416	-4.91	0.375
Did not finish HS (omitted)	--	--	--
Weekday	0.2354 **	30.56 **	0.000
Born in NES country	0.0250	2.82	0.585
Male	0.0579	6.82	0.132
Aged 15-24	0.0470	5.33	0.327
Aged 25-34	0.0591	6.61	0.230
Aged 35-44 (omitted)	--	--	--
Aged 45-54	0.1063	11.57	0.134
Aged 55 years and over	0.0797	8.76	0.219
Capital city (omitted)	--	--	--
Urban	-0.0475	-5.50	0.145
Rural	-0.0561	-6.74	0.241
Employed full-time	-0.1889 **	-56.13 **	0.000
Employed part-time	-0.1317 **	-18.19 **	0.004
Unemployed (omitted)	--	--	--
Not in the labour force	-0.1301 **	-18.32 **	0.040
Currently injured or ill	0.3125	34.27	0.307
Currently studying	-0.0389	-4.58	0.376
Pseudo-R2		0.0474	
N		564	

Note: Marginal effects for dummy variables show the effect of changing the dummy variable from zero to one, relative to the omitted category.
** indicates that the underlying coefficients are significant at 95% confidence level; * indicates significance at 90% confidence level.
Results are weighted using ABS weights

Appendix Table 7: Average minutes per day spent on various activities by labour force status, 1997, weighted

	Full time	Part time	Unemp-loyed	NILF
NON-MARKET PRODUCTION ACTIVITIES				
Domestic activities nfd	2.16	1.09	1.56	2.21
Food and Drink prep/cleanup nfd	0.03	0.02	0.22	0.12
Food and Drink prep/service	22.02	40.23	34.12	49.21
Preserving/freezing	0.06	0.16	0.05	0.31
Wine/beer making	0.11	0.02	0.11	0.07
Set/clear table	0.42	0.98	0.71	1.32
Clean up after food prep/meals	7.43	13.89	11.71	19.83
Food and drink prep/cleanup nec	0.04	0.12	0.07	0.10
Laundry and clothes care nfd	0.39	0.53	0.70	0.91
Washing, loading/unloading washing machine	2.73	6.19	4.30	7.37
Hanging out/bringing in washing	2.64	6.56	5.36	7.23
Ironing	3.03	7.65	3.69	7.02
Sorting, folding clothes	1.30	3.14	2.33	3.04
Clothes upkeep/care	0.13	0.45	0.18	0.48
Clothes making	0.31	1.17	0.33	1.17
Sorting clothes for disposal	0.01	0.08	0.00	0.05
Laundry and other clothes care nec	0.01	0.03	0.00	0.03
Other housework nfd	4.96	10.72	15.00	13.12
Dry housework	3.80	10.98	7.99	13.20
Wet housework	1.90	4.83	4.45	5.51
Occasional dry housework	0.36	0.61	1.26	0.97
Occasional Wet housework	0.26	0.47	0.53	0.87
Other housework nec	0.39	0.61	0.53	0.91
Grounds/animal care nfd	0.27	0.11	0.04	0.08
Gardening	7.86	10.22	13.30	20.70
Lawn care	1.94	1.17	3.54	2.39
Harvesting home produce	0.08	0.36	0.27	0.39
Cleaning grounds, garage etc	2.15	1.67	3.23	3.08
Pool care	0.27	0.14	0.03	0.20
Pet, animal care	3.32	4.97	4.83	6.14
Grounds/animal care nec	0.22	0.19	1.07	0.06
Home maintenance nfd	0.33	0.46	0.14	0.40
Home/equipment repairs	2.30	1.31	3.92	3.15
Designing new home or interior design	0.04	0.15	0.07	0.05

Home improvements	2.65	2.11	5.01	1.82
Making furniture/household goods	0.04	0.03	0.00	0.44
Making furnishings	0.08	0.00	0.02	0.25
Heat/water/power upkeep	1.18	0.54	0.91	1.37
Car/boat/bike care	5.02	3.15	10.99	3.45
Home maintenance nec	0.36	0.17	0.26	0.42
Household management nfd	0.03	0.01	0.00	0.01
paperwork, bills	1.16	1.83	0.91	1.70
Budgeting, organising rosters, making lists	0.68	0.86	0.55	0.69
Selling/disposing of household assets	0.26	0.67	0.68	0.15
Recycling	0.07	0.09	0.07	0.24
Mail organisation	0.21	0.44	0.51	0.74
Packing for journey/moving	2.28	2.55	0.86	2.11
Packing away goods	1.28	2.27	1.51	2.56
Disposing of rubbish	0.36	0.59	0.61	0.90
Household management nec	0.78	1.20	0.69	1.27
Associated communication	0.09	0.16	0.01	0.22
Associated travel	2.57	3.08	2.25	2.55
Domestic activities nec	0.57	0.84	1.15	0.46
Child care activities nfd	0.08	0.13	0.00	0.14
Care of children	0.03	0.03	0.13	0.26
Physical care of children	6.89	16.79	10.26	18.04
Emotional care of children	0.29	0.72	0.25	0.44
Teaching/helping/reprimanding children	0.89	1.72	1.62	1.34
Playing/reading/talking with child	6.59	8.94	9.54	8.14
Minding children	2.76	6.17	3.28	5.83
Visiting child care establishment/school	0.25	1.46	0.28	1.01
Associated communication	0.07	0.33	0.03	0.11
Associated travel	2.90	7.62	4.18	5.01
Child care activities nec	0.29	1.10	0.45	0.84
Voluntary work and care nfd	0.19	0.11	0.19	0.18
Caring for adults nfd	0.13	0.01	0.76	0.18
Caring for adults : physical care	0.17	0.75	0.85	1.38
Caring for adults : emotional care	0.53	1.14	0.76	1.97
Caring for adults nec	0.00	0.00	0.00	0.00
Helping doing favours	0.82	0.84	0.45	0.82
Unpaid voluntary work	0.82	2.25	3.81	3.98
Associated communication	0.04	0.11	0.00	0.13
Associated travel	3.06	4.43	3.62	4.32

Voluntary work and care nec	0.11	0.12	0.00	0.07
EMPLOYMENT AND PATHWAYS TO EMPLOYMENT				
Employment related activities nfd	0.00	0.00	0.00	0.00
Main job : usual hours	330.65	142.31	17.46	0.59
Main job : extra hours , overtime	1.37	0.43	0.20	0.00
Main job : extra hours , work brought home	6.40	1.21	0.34	0.03
Main job nec	0.14	0.03	0.00	0.00
Other job:usual hours	2.41	1.88	0.00	0.00
Other job: extra hours, overtime	0.03	0.00	0.00	0.00
Other job: extra hours, work brought home	0.06	0.06	0.00	0.00
Other job nec	0.03	0.00	0.00	0.00
Unpaid work in family business or farm	1.41	2.01	0.00	1.20
Work breaks	0.32	0.12	0.00	0.00
Job search	0.32	0.98	16.64	0.27
Associated communication	0.39	0.28	0.62	0.06
Associated travel	37.43	18.41	8.74	0.60
Employment related activities nec	2.69	1.97	2.74	1.85
Education activities nfd	0.00	0.04	0.00	0.05
Attendance at educational courses (excl job related training	1.16	21.40	15.30	17.86
Job related training	0.94	1.43	2.59	0.65
Homework/study/research	2.07	18.99	12.09	14.86
Associated communication	0.00	0.15	0.14	0.24
Associated travel	0.45	5.50	4.10	4.60
Education activities nec	0.10	0.77	0.75	0.74
SOCIAL CONNECTEDNESS				
Socialising	9.01	11.51	18.98	12.89
Attendance at movies/cinema	1.78	2.53	2.35	1.30
Attendance at concert	0.47	0.84	0.38	0.21
Attendance at theatre	0.36	0.33	0.44	0.18
Attendance at library	0.07	0.27	0.68	0.39
Attendance at museum/exhibition/art gallery	0.09	0.21	0.06	0.32
Attendance at zoo/animal park/botanic garden	0.17	0.07	0.00	0.23
Attendance at amusement park	0.20	0.41	0.20	0.22
Attendance at other mass events	1.42	2.67	3.39	1.76
Visiting entertainment and cultural venues nec	0.09	0.09	0.15	0.19
Attendance at sports event nfd	0.01	0.06	0.00	0.02
Attendance at sports match	1.67	0.87	2.91	0.95
Attendance at racing event	0.54	0.26	0.00	0.38

Attendance at sporting event nec	0.10	0.06	0.05	0.08
Religious activities/ritual ceremonies nfd	0.25	0.24	0.20	0.36
Religious practice	2.25	3.71	3.86	5.35
Weddings, funerals, rites of passage	0.65	0.73	0.17	0.37
Religious activities/ritual ceremonies nec	0.35	0.27	0.11	0.67
Community participation nfd	0.12	0.06	0.00	0.16
Attendance at meetings	1.40	1.56	1.09	1.66
Civic ceremonies	0.00	0.00	0.00	0.00
Civic obligations	0.13	0.09	0.09	0.30
Filling in time use form	6.84	9.62	4.68	7.55
Community pariticipation nec	0.25	0.29	0.31	0.48
Negative social activities	0.01	0.00	0.00	0.01
Associated communication	0.18	0.26	0.01	0.35
Associated travel	10.87	12.56	16.75	13.98
Social and community interaction nec	0.21	0.15	0.23	0.29
Recreation and leisure nfd	0.02	0.06	1.20	0.00
Sport and outdoor activities nfd	0.02	0.00	0.25	0.03
Organised sport	4.82	4.16	4.92	4.64
Informal sport	4.66	4.52	5.77	4.17
Attendance at recreational courses nfd (excl school and uni)	0.13	0.35	0.00	0.25
Attendance at personal development courses	0.26	0.42	0.91	0.30
Attendance at DIY courses	0.02	0.00	0.00	0.00
Attendance at art/craft/hobby courses	0.13	0.65	0.51	0.41
Attendance at recreational courses nec	0.04	0.03	0.98	0.03
OTHER				
No recorded activity between episode	2.20	2.78	3.82	2.72
no further recorded activity	1.81	2.65	3.18	3.61
total no activity	4.01	5.42	7.00	6.33
Personal care activities nfd	0.72	0.75	0.61	0.47
Sleeping	498.37	519.31	560.47	522.59
Nap	1.70	1.66	1.42	2.93
Sleeplessness	0.79	1.32	0.48	1.55
Personal hygiene	42.67	45.57	48.29	52.19
Health care nfd	0.00	0.00	0.00	0.01
Personal medical care	0.35	0.61	0.69	2.97
Rest because of illness	2.89	4.03	4.85	6.37
Health treatments	0.23	0.53	0.24	0.67
Health care nec	0.47	0.04	0.51	0.30
Eating/drinking nfd	1.10	0.74	2.30	0.94

Eating a meal	67.38	67.21	68.72	82.20
Eating a snack	5.45	6.19	4.16	7.92
Drinking a non-alcoholic beverage	9.50	13.13	16.03	17.18
Eating/drinking nec	0.07	0.13	0.09	0.08
Associated communication	0.01	0.01	0.13	0.04
Associated travel	0.37	0.21	0.03	0.11
Personal care activities nec	0.05	0.23	0.11	0.04
Purchasing goods and services nfd	0.68	1.11	1.02	1.30
Purchasing goods nfd	9.59	14.68	12.34	16.91
Purchasing consumer goods	5.52	7.54	6.90	6.81
Purchasing durable goods	1.52	1.52	1.71	1.46
Window shopping	1.29	2.01	2.79	1.52
Purchasing goods nec	0.08	0.14	0.05	0.05
Purchasing services nfd	0.06	0.09	0.16	0.05
Purchasing repair services	0.44	0.54	0.63	0.53
Purchasing administrative services	1.15	1.90	1.44	1.68
Purchasing personal care services	0.59	1.02	0.49	1.10
Purchasing medical care services	1.37	1.96	1.46	3.35
Purchasing child care services	0.00	0.02	0.00	0.01
Purchasing domestic/garden services	0.12	0.08	0.05	0.08
Purchasing services nec	0.59	0.36	0.56	0.48
Associated communication	0.14	0.12	0.14	0.16
Associated travel	13.81	16.27	16.28	18.14
Exercise (excluding walking)	4.89	5.84	5.71	4.07
Walking (including for exercise)	2.81	4.55	6.22	6.90
Hiking/bushwalking	0.80	0.98	0.12	0.48
Fishing- minutes per day	1.95	1.17	2.42	2.39
Holiday travel, driving for pleasure	3.03	3.64	7.19	4.20
Sport and outdoor activity nec	2.11	2.98	3.95	2.74
Games/hobbies/arts/crafts nfd	0.11	0.31	0.03	0.44
card,paper, board games/crosswords	1.96	2.04	2.97	5.40
Games of chance/gambling	1.42	1.65	1.72	2.16
Home computer games/computing as hobby	5.16	4.94	11.48	5.64
Arcade games	0.14	0.27	0.05	0.14
Hobbies, collections	0.91	0.72	2.85	1.14
Handwork, crafts	0.72	2.78	0.77	8.18
Arts	0.12	0.57	0.28	0.76
Performing/making music	1.04	1.22	2.04	1.45
Games/hobbies/arts/crafts nec	0.24	0.16	0.47	0.22

Reading nfd	4.87	8.07	8.21	13.19
Reading book	4.54	5.60	6.87	10.12
Reading magazine	0.78	1.69	1.43	1.77
Reading newspaper	6.20	6.66	9.02	12.01
Reading CDROM	0.00	0.00	0.00	0.00
Reading nec	0.13	0.08	0.67	0.19
Audio-visual media nfd	1.78	2.67	4.42	2.11
TV watching/listening	91.97	91.27	147.06	146.18
Video watching	6.30	7.70	10.88	5.61
Listening to radio	3.24	5.07	8.11	11.68
Listening to records/tapes/CDs	0.45	0.73	2.62	1.00
Accessing the internet	0.71	1.02	2.74	0.54
Audio-visual media nec	0.03	0.03	0.13	0.04
Other free time nfd	0.18	1.13	1.70	0.61
Relaxing/resting	8.73	10.74	9.36	19.03
Doing nothing	0.12	0.46	0.21	1.27
Thinking	0.24	0.38	0.07	0.33
Worrying	0.02	0.01	0.00	0.06
Drinking alcohol/social drinking	8.62	4.36	10.11	2.53
Smoking	0.48	0.72	1.41	0.47
Interacting with pets/walking pets	2.45	3.02	3.34	3.79
Enjoying memorabilia	0.05	0.29	0.26	0.22
Other free time nec	0.50	0.43	0.60	0.87
Associated communication	24.01	29.81	29.52	26.99
Associated communication : by telephone	5.55	12.54	11.08	12.09
Associated communication : written	0.61	1.60	1.80	2.27
Associated travel	8.93	8.82	11.32	8.56
Recreation and leisure nec	0.02	0.16	0.00	0.05

effort of unemployed persons in Australia. The JSD program is distinguished by combining a focus on work. search verification with large scale implementation. Applying a quasi-experimental matching method to data. on unemployment spells occurring in 1997-98, the authors find that JSD participation was associated with an. increased rate of exit from unemployment payment recipiency and a shorter total time spent on payments. Payment receipt duration is estimated to have fallen for about one-half of JSD participants. The largest effects.Â increase the job search effort of unemployed persons in Australia. The JSD program is. distinguished by combining a focus on work search veriï¬cation with large scale imple-. mentation.