

1. INTRODUCTION

The purpose of this study was to conduct a pilot of the 'light' diary methodology for examining time-use of women and men in Ireland. The principal aims of this report are:

- (1) To describe the methodological experience of conducting a pilot of a 'light' diary examining time-use in Ireland and
- (2) To present the first descriptive results on time-use by women and men in Ireland.

Time-Use diaries, or time budget surveys, first became popular in the 1960s and have since become a vital tool in social, economic and policy research (Andorka, 1987; Juster and Stafford, 1991). The essential feature of these surveys is that they ask respondents to supply a complete record of their daily activities over a 24 hour period. Time-Use diaries are argued to be the most effective tool for gauging the time people spend on activities, and are associated with much less error than questions which ask the respondent directly to estimate how much time they spend on any given activity per week (Gershuny, 2000). Time-Use data is now available for a very wide range of countries and in many cases over a long time series (Fisher *et al.*, 2000). However, with the exception of a small Central Statistics Office (CSO) pilot carried out in Munster (Central Statistics Office 1999), to date no national time-use study has been carried out in Ireland. As noted in the preface, the Irish National Statistics Board recommended that serious consideration be given to a Time-Use Survey in Ireland, given that a wide range of activities cannot be monitored by any existing data source. The current study begins to fill this significant knowledge gap in Ireland with the first national survey on time-use among just over 1,000 adult individuals. Time-Use surveys have proved an invaluable research resource in a diverse range of issues and we begin by briefly reviewing its uses and value and highlighting the need for such data in Ireland. We then briefly describe the structure and content of the time-use survey conducted.

1.1 Applications of Time-Use Surveys

A time-use study offers exciting potential to study housework, care work, leisure time activities like watching TV and sport, computer use, quality of life and lifestyles, commuting, volunteering, work and study at home – a range of issues about which little is known in Ireland. The data can inform policy debates on issues such as work-life balance, the provision of childcare, caring for the elderly, the knowledge society, equality issues, and social capital.

The most fundamental application of time-use data is to provide nationally representative and accurate estimates of the amount of time people spend in various activities. These data move beyond the 'stylised accounts' of time spent on different activities that are produced by conventional surveys, which ask respondents to estimate their time spent in paid work, commuting, domestic work (Gershuny, 2000; Williams, 2004; Robinson and Bostrom, 1994). Combined with a questionnaire that collects information on the respondents' background characteristics, one can compare patterns of time-use among various groups in the population (Joyce and Stewart, 1999).

Time-Use data has been widely used to explore unpaid household work, caring work and the gender division of labour (e.g., Layte, 1999; Pacholok and Gauthier, 2004; Budig and Folbre, 2004, Ironmonger, 2004). There has been particular interest in whether the division of household work has changed over time and whether patterns of caring and time spent with children have altered. The main finding from other countries is that as women have increased their time spent in paid work they reduce their time spent on unpaid work, however, men have not increased their unpaid work proportionately. Thus the dramatic rise in female labour market participation has not been associated with a major shift in the domestic division of labour: women still tend to do more housework, regardless of how much they work outside the home (Bianchi *et al.*, 2000; Shelton and John, 1996). Women are also more likely to do routine domestic tasks, while men participate in childcare (Shelton and John, 1996). There has been almost no previous research on this topic in Ireland.² The fact that the sample for the Irish time-use diary is of households allows the possibility of analysing time-use among couples and comparing the division of unpaid and paid work time between partners.

Time-Use data can also provide valuable insights into the complex way in which paid work, unpaid work and leisure time are combined, and the impact of this on work-life balance, an issue of increasing policy relevance (Bittman, 2004; Jacobs and Gerson, 2004; Fisher, 2003). Time-Use data allows us to answer questions such as: how do different individuals and families reconcile work and home life, and what is the role of the State in framing their choices? How have the rapid economic changes of the Celtic Tiger era influenced the balance of work and leisure in Ireland – is there evidence that some individuals and households are time-poor?

At the macro level time-use data in other countries have been used to calculate a more comprehensive picture of national productivity and wealth. A longstanding criticism of national accounts is that they measure only productive activities that take place in the market economy and ignore productive activities which take place in the home (Gershuny, 2000; Landfeld and McCulla, 2000; Goldschmidt-Clermont and Pagnossin-Aligisakis, 1999; Fahey, 1992). In this view, the national accounts can be said to underestimate total economic output and in particular, given the gendered distribution of production within the household, to understate the economic value of women's work. They can also lead to overestimates of economic growth: as women move from housework to paid work, the output they add in the market is counted as wholly additional to existing output, without taking account of the output that is lost by virtue of their reduced work time at home. In addition, national accounts data can lead to misleading comparisons cross-nationally, as countries with a high proportion of women engaged fully in home duties are made to seem considerably poorer than they really are. Time-Use data have been used to estimate the economic value of domestic work and to adjust national account figures accordingly (Landfeld and McCulla, 2000; Goldschmidt-Clermont and Pagnossin-Aligisakis, 1999).

Other issues that have been successfully investigated using time-use data include travel-time/commuting time (Gershuny, 2003), changes in the use of leisure time (Robinson and Godbey, 1997; Gershuny, 2000), mass media contact (see Andorka, 1987) and activity and sociability among older people (Charlemaigne and Gauthier, 2005). The survey described here provides the possibility to examine all these issues in an Irish context at one point in time. Repeated time-use surveys at regular intervals would provide invaluable information on social and economic change in Irish society.

² Fahey (1992) examines housework but does not examine who does it: Leonard (2004) looks at the gender division of housework among teenagers.

The collection of Irish Time-Use data also fills a gap in existing comparative research. The Multi-national Time-Use Project has facilitated cross-national research on time-use by harmonising the output from different national sources (e.g., see Fisher, 2003). Eurostat has also recently published a comparison of time-use patterns across ten European countries – Belgium, France, Finland, Sweden, the UK, Estonia, Hungary, Slovenia and Norway (Eurostat, 2003, 2004b). These comparative analyses show both interesting continuities and differences in time-use across national boundaries. For example, while women spend more time on domestic work than men in all ten countries, the average amount of time women spend on these tasks is significantly higher in Hungary and Slovenia than elsewhere. In designing the questionnaire we have endeavoured to make the activity categories comparable to those used in national surveys elsewhere in Europe.

In addition to providing a picture of how gender differences in time-use compare to those elsewhere in Europe, comparative analyses could additionally examine how institutional arrangements in different countries, including welfare and service provision, regulation of working hours may affect the gender balance of paid and unpaid work (see Kalleberg and Rosenfeld, 1990), and affect work-life balance.

1.2 Structure and Content of Time-Use Surveys

There are two main types of time-use diary – heavy and light. The ‘heavy’ diary requires a written description by respondents of all primary and secondary activities to supply a continuous narrative of their day. Either the exact start and finish times are recorded or more commonly the activities are inserted into short time slots of 10-20 minutes. The ‘light’ diary contains a relatively short but comprehensive list of pre-coded activity categories and respondents are required to indicate which they were involved in for each period of the day. The light diary provides less detailed information but is much easier for the respondent to fill out, and it is also less expensive to carry out. This study tests a light diary instrument in Ireland for the first time.

Based on previous time-use studies we specified 26 different activity codes, such as sleeping eating, travelling, paid work and watching TV. These are outlined in Table 1.1. Few respondents reported activities not covered by the list. Nevertheless, in common with all light time-use diaries, the categories do impose a normative structure on people’s lives and require them to ‘fit their lives’ into 26 pre-defined categories. The day is divided into 96 periods of 15 minute periods, and respondents are asked to indicate which activities they were doing during every time slot. Each respondent was asked to fill out one weekday diary and one weekend day diary. Respondents were also asked to specify where they were and who they were with during each time period. Further details on how the survey was conducted are included in Chapter 3 and an extract from a completed diary is included in Appendix A.

1.3 Contents of the Report

In Chapter 2 we provide initial results from the survey. These provide a basic description of the patterns of time-use in Ireland and of the type of data produced by the survey. As will be clear from the discussion here, this represents only a tiny fraction of the possible descriptive and analytical applications of time-use data. In interpreting the results, the reader should bear in mind the relatively small sample size (1,089 individuals, 585 households) and the fact that the data is only collected at one point during the year. This limits the scope for population breakdowns of time-use, in particular any examination of time-use by region. In Chapter 3 we describe the methodology used to collect a ‘light’ time-use diary in Ireland. In the final chapter we summarise the main findings and discuss the lessons learned from this scoping exercise for collecting future time-use data in Ireland.

Table 1.1: Activity Categories Used in the Irish National Time-Use Survey 2005

Major Group	Activity
PERSONAL CARE/RESTING	1. SLEEPING.
	2. RESTING/RELAXING doing nothing, 'time out'.
	3. PERSONAL CARE washing, dressing, toilet.
	4. EATING/DRINKING/HAVING A MEAL.
TRAVEL	5. TRAVEL including travel to and from work as well as leisure and domestic travel.
PAID EMPLOYMENT OR STUDY	6. PAID EMPLOYMENT include paid and unpaid overtime, work from home, self-employment and farm work. Exclude lunch and other breaks.
	7. STUDY, EDUCATION include courses, night classes, studying at home. Exclude lunch and other breaks.
	8. BREAKS FROM WORK OR STUDY include tea/coffee, smoking and lunch breaks.
HOUSEWORK AND OTHER HOUSEHOLD TASKS	9. COOKING & preparing food (including making lunches), washing –up.
	10. CLEANING the house, doing the laundry, ironing, hoovering, tidying up.
	11. HOUSE REPAIRS & maintenance, DIY, gardening.
SHOPPING AND APPOINTMENTS	12. SHOPPING, MESSAGES/ERRANDS & APPOINTMENTS shopping for food or leisure, services e.g., hairdressers, visiting doctor, paying bills.
CARING FOR OTHERS	13. CHILDCARE looking after children, physical care, supervision.
	14. PLAYING AND TALKING WITH CHILDREN include reading, games, helping with homework, accompanying children to activities.
	15. CARING FOR ADULTS with special needs or elderly persons, either in your home or elsewhere (e.g. help with personal care).
VOLUNTARY AND RELIGIOUS ACTIVITY	16. VOLUNTARY ACTIVITY for a charitable organisation, sports club or other organisation, includes meetings & informal helping outside the home.
	17. RELIGIOUS ACTIVITY Attending religious services, prayer.
SOCIALISING AND GOING OUT	18. SPENDING TIME/CHATTING WITH FAMILY, FRIENDS, NEIGHBOURS including spouse.
	19. PHONING/TEXTING FAMILY, FRIENDS, NEIGHBOURS include writing a letter.
	20. EATING OUT/GOING TO THE PUB include going to cafes, bars, restaurants, and nightclubs.
	21. GOING OUT to concerts, theatre, cinema, galleries, sporting events, bookies, and bingo.
SPORTS & LEISURE	22. PLAYING SPORTS, EXERCISE AND OUTDOOR ACTIVITY including playing football, walking the dog, going to the park.
	23. COMPUTER/INTERNET FOR PERSONAL USE e.g. play station, x-box, surfing the net, email, using computer for leisure, shopping.
	24. HOBBIES AND OTHER LEISURE ACTIVITIES e.g. playing musical instruments, playing cards, other games.
TV, RADIO, READING	25. WATCHING TV and videos/DVD's.
	26. READING a book, magazine or newspaper or LISTENING to radio or music.

2. TIME-USE IN IRELAND

2.1 Introduction

This chapter presents the first national results on time-use in Ireland. This allows us to quantify gender differences in caring time and household work for the first time. It gives new insights into how much time Irish people spend on leisure and what they do with their leisure time. We can investigate differences in time-use by age, employment status, educational level and family status. Finally, it allows us make comparisons between time-use in Ireland and elsewhere in Europe.

The chapter begins by a brief description of the adults who filled out time-use diaries. We then describe in detail the average time spent on each activity and the proportion of women and men who do each activity each day. We discuss multi-tasking, and which groups are most likely to do multiple activities simultaneously. We group the activities into seven main categories and examine time-use by gender, age group, education, employment status and family status. We report on how Irish time-use compares to time-use in other European countries. We record who people were with and where they were, and finally what percentage felt rushed and stressed during the diary day.

Table 2.1: Demographic Profile of Time-Use Survey Participants (Weighted)

		No. of Respondents	%
Sex	Male	504	49.3
	Female	519	50.7
Age Group	18-24 years	176	17.2
	25-44 years	403	39.4
	45-64 years	299	29.2
	65+ years	145	14.2
Education level	Primary	193	18.9
	Junior Certificate or equivalent	237	23.2
	Leaving Certificate	258	25.2
	Post-secondary	335	32.7
Principal Economic Status	Employed	468	45.7
	Self-employed	117	11.4
	Student	89	8.7
	Unemployed	36	3.5
	Sick/Disabled	30	2.9
	Home Duties	147	14.4
	Retired	113	11.1
	Other & Training	23	2.2
Child under 18 years	No	596	58.3
	Yes	348	34.0
	Missing	79	7.7
Region	Dublin	304	29.7
	BMW	264	25.8
	South & East (excluding Dublin)	454	44.4
Marital Status	Single	344	33.6
	Married/Cohabiting	570	55.7
	Widow/Divorce/Separated	110	10.7
	Total	1,023	100

Note: Weighted for respondents who provided weekday diaries.

The tables in this chapter are based on usable sample returns which have been re-weighted to correct for under- or over-representation of subgroups of the population.³

As a prelude to examining time-use, Table 2.1 presents a demographic profile of respondents to the Time-Use Survey. As the data has been weighted, the demographic profile is very similar to that found in the 2002 Census (see Appendix C for further details on weighting). There are equal numbers of adult women and men, and the largest age group is 25-44 year olds. Almost one-third of respondents have post-secondary education, 20 per cent have primary education. Over half the sample (57 per cent) is employed; there are significant numbers of students, homemakers and retired people. The numbers of unemployed, sick/disabled and those with another principal economic status are small, so results for them will be interpreted with caution. One third of the persons in the sample have a child under 18, over half of them are married/cohabiting and their regional distribution follows that of the population.

2.2 Patterns of Time-Use in Ireland

The survey asked respondents to complete two time-use diaries one for a weekday and one for a weekend day. We present results separately for weekday time-use and weekend time-use as these vary considerably. As respondents were permitted to record multiple activities (to reflect the reality that individuals often carry on more than one activity at a time) the total time recorded often adds to more than 24 hours. We deal with this in a number of ways. In the first table we simply record total time-use, the so-called 'long days', where the sum of all activities is more than 24 hours. In further tables we assign priorities to certain activities, which allows us to create 24-hour days but means we have made decisions on which activity has priority. The implications of this are discussed as the results are presented.

Table 2.2 presents mean time spent by women and men on each activity on weekdays and weekend days. As this table sums all recorded activities the total days are 'long', around 26 hours for men and 28 hours for women. Of the 26 activities by far the longest time is spent on sleeping followed on weekdays by employment/study, watching TV and eating. Total travelling time, at over 1 hour per day is quite high for both women and men. On average men spend more time in paid employment, and women spend much more time on caring and housework, even at the weekend when paid employment for both groups is much lower. Comparing leisure, women spend more time on 'informal socialising' – chatting, and spending time with family and friends than men. At the weekend, men spend more time than women in pubs and restaurants, doing active sport, on the computer and watching TV. There are fewer gender differences during the week in leisure patterns. The average time spent watching TV is 2 hours per day. Time spent on voluntary activities is low – 10 minutes per day on weekdays and 8 minutes at weekends. These levels are comparable to those found in other European countries (Eurostat, 2003). Religious activity amounts to 6 minutes on a weekday and rises to 20 minutes on average at the weekend.

³ We take usable sample returns to be diaries with more than 80 time slots filled out, as described in detail in Chapter 3.

Table 2.2: Average Time (hh:mm) Spent on Each Activity ('Long Days') (Weighted)

ACTIVITY	WEEKDAY			WEEKEND		
	Men	Women	All	Men	Women	All
Sleep	8:04	8:26	8:15	8:46	8:51	8:48
Rest	1:02	1:01	1:01	1:16	1:06	1:11
Personal Care	0:39	0:49	0:44	0:42	0:53	0:47
Eating	1:24	1:19	1:22	1:32	1:30	1:31
Travel	1:29	1:05	1:17	1:09	0:58	1:03
Employment	5:17	2:22	3:48	1:48	0:49	1:18
Study	0:31	0:28	0:30	0:12	0:11	0:11
Breaks	0:34	0:25	0:30	0:10	0:10	0:10
Cooking	0:16	1:09	0:43	0:18	1:00	0:39
Cleaning etc.	0:12	1:18	0:45	0:12	1:07	0:40
DIY, gardening	0:28	0:14	0:21	0:44	0:15	0:30
Shopping	0:16	0:42	0:29	0:27	0:50	0:39
Childcare: supervision	0:14	1:50	1:03	0:26	1:49	1:08
Childcare: playing, reading	0:17	0:40	0:29	0:25	0:48	0:37
Adult care	0:05	0:25	0:16	0:05	0:18	0:12
Voluntary Work	0:09	0:11	0:10	0:10	0:05	0:08
Religious Activity	0:06	0:07	0:06	0:19	0:21	0:20
Chatting with family and friends	0:50	1:13	1:02	1:28	1:40	1:34
Phoning, texting	0:14	0:23	0:19	0:18	0:19	0:19
Pubs and restaurants	0:25	0:11	0:18	1:28	1:09	1:18
Concerts etc.	0:09	0:06	0:08	0:19	0:22	0:21
Sport, outdoor activity	0:23	0:20	0:21	0:46	0:21	0:34
Computer (personal)	0:12	0:06	0:09	0:13	0:05	0:09
Other hobbies	0:08	0:07	0:07	0:16	0:11	0:14
TV	2:04	2:05	2:04	2:28	1:51	2:10
Reading and radio	0:37	0:44	0:41	0:37	0:38	0:37
Time-Use unspecified	0:19	0:25	0:22	0:20	0:22	0:21
TOTAL (HOURS: MINS)	26:26	28:11	27:19	26:54	27:59	27:27

Notes: Figures based on weighted data for all adults, 18 years and over. For further details of categories see Table 1.1.

The average time spent on any activity across the sample is a function of both the proportion of people who engage in that activity and the amount of time those individuals spend on the activities. Table 2.3 presents the proportion of people doing each activity, as a complement to Table 2.2.

The most common activities like eating, sleeping and personal care are recorded by almost all respondents (90-100 per cent). The least common activities are adult care which is recorded by only 6-8 per cent of respondents, voluntary activity which is recorded by 8 per cent of respondents, going out to concerts, theatres, sporting events (6-13 per cent), and other hobbies (9-12 per cent).

The proportion of respondents involved in some activities alters considerably between the weekdays and the weekend days. For example, the proportion recording any paid work is more than halved at the weekend, while the proportion of people going out to pubs and restaurants more than doubles from 15 per cent to 38 per cent. A greater proportion of respondents engage in religious activity at the weekend, with 30 per cent of respondents recording some religious activity at weekends.⁴

⁴ The figures for religious activity are lower than that reported for church attendance from the European Values Survey for 2003 by Fahey *et al.* (2005). Here, 50 per cent of the sample reported weekly church attendance. However, the authors note that reported church attendance fell rapidly between 2000 (around 60 per cent) and 2003, so it is likely to have fallen further by 2005. In addition, self-reported church attendance is often an over-estimation of actual attendance, reflecting what people aspire to, rather than what they do (Fahey *et al.*, 2005).

Table 2.3: Proportion of People Doing Each Activity (Long Days)

ACTIVITY	WEEKDAY			WEEKEND		
	Male	Female	Total	Male	Female	Total
	%	%	%	%	%	%
Sleep	100	100	100	100	100	100
Rest	62	61	62	65	65	65
Personal Care	87	93	90	86	94	90
Eating	94	97	95	94	96	95
Travel	80	69	74	67	63	65
Employment	68	41	54	27	17	22
Study	17	14	16	8	7	7
Breaks	51	44	47	19	18	18
Cooking	29	74	52	32	67	50
Cleaning etc.	19	71	46	22	67	45
DIY, gardening	23	19	21	29	16	22
Shopping	22	52	37	29	46	38
Childcare: supervision	12	35	24	13	28	21
Childcare: playing, reading	15	31	23	17	29	23
Adult care	3	12	8	5	8	6
Voluntary Work	7	9	8	8	5	7
Religious Activity	9	12	11	27	33	30
Spending time chatting with family and friends	41	57	49	50	64	57
Phoning, texting	23	35	29	22	31	27
Pubs and restaurants	19	12	15	40	36	38
Concerts, sports events	8	5	6	12	13	13
Sport, outdoor activity	23	23	23	33	25	29
Computer (personal)	16	9	12	14	8	11
Other hobbies	9	8	9	13	12	12
TV	82	82	82	79	73	76
Reading and radio	38	45	42	40	40	40
Time-Use unspecified	37	42	39	41	41	41

Notes: Figures based on weighted data for all adults, 18 years and over. For a full description of the activity categories see Table 1.1. The proportion in employment is higher in the working age population, aged 18-64 years: 74 per cent of men and 47 per cent of women are employed on a weekday.⁵

There are interesting gender patterns across a range of activities. For commonly recorded activities like sleeping and eating there is almost no difference in the proportion of women and men doing these daily, either on weekdays or on weekend days. What does vary substantially by gender are the proportions involved in paid employment, on the one hand, and domestic or caring tasks on the other: 68 per cent of men but only 41 per cent of women engage in paid employment on a weekday. Conversely, almost three-quarters of women record cooking on a weekday, versus less than 30 per cent of men. An even smaller proportion of men (19 per cent) record cleaning on a weekday. Similar differences emerge in relation to shopping. The only 'household' task that a greater proportion of men participate in is DIY and gardening, especially

⁵ The QNHS records an employment rate of 76 per cent for men aged 15-64 years and 57 per cent for women in this age group. The reason for this discrepancy is that not everyone in employment works every weekday because of sickness, holidays, part-time work, shift/weekend work or other reasons. These people will be picked up as employed in the QNHS and in the principal economic status question in the time-use questionnaire, but can record no time in paid employment on any particular day. There is greater divergence in the female estimates because more women work part-time.

at the weekend. A much greater proportion of women participate in child and adult care, both on weekdays and at the weekend.

Gender differences in leisure participation mirror the mean time spent on leisure, described above: women are more likely to chat and spend time with family and friends; men are more likely to go to a pub or restaurant, participate in sport (at least at weekends) and use computers for leisure.

2.3 'Multi-tasking'

As can be seen from the 'long days' in Table 2.2, many people recorded multiple activities in their diary. Table 2.4 investigates the time spent each day doing two or more activities among different groups.

Table 2.4: 'Multi-tasking': Time (hh:mm) Spent Each Day Doing Two or More Activities Simultaneously

		Weekday	Weekend
All		2:30	2:41
Sex	Male	1:52	2:11
	Female	3:07	3:03
Age group	18-24 years	2:27	2:14
	25-44 years	2:51	3:13
	45-64 years	2:24	2:26
	65+ years	1:47	1:51
Principal Economic Status	Employed	2:23	2:45
	Self-employed	1:58	2:03
	Student	2:39	2:10
	Unemployed	2:18	2:33
	Sick/Disabled	3:05	3:24
	Home Duties	3:57	3:50
	Retired	1:40	1:28
Children	Other & Training	1:17	1:22
	No children	1:59	2:02
	Children under 18 years	3:23	3:46

Note: Figures based on weighted data for all adults, 18 years and over.

In general women are more likely to record multiple activities, as are the 25-44 year old age group and those in home duties. There is no relationship between education and 'multi-tasking' (not reported in the table). The results suggest that much of the variation in 'multi-tasking' is linked to stage in the life cycle, i.e., women with young children, and not linked to differential reporting of such multi-tasking.

The main types of activity which are recorded with others are: resting, chatting, childcare, playing/interacting with children and passive leisure activities like TV and radio. Multiple activities are most common in the evening, but also common at lunchtime.

2.4 Main Activities

In order to examine time-use across other demographic categories and to increase comparability with international time-use estimates we combined the initial 27 categories into the following groups: care (comprising childcare supervision, childcare play and adult care); employment and study; household work including DIY, gardening and shopping; travel; personal care and eating; leisure (including all active and passive leisure and resting, voluntary activity and religious activity); sleep and time-use unspecified.⁶

⁶ Note that in grouping activities we have followed normal conventions. For example, gardening, DIY and shopping are counted as household tasks, whereas in some instances and/or for some people these might be seen as leisure activities. It is not possible to incorporate this variation in the 'status' of activities in such simple activity groupings but it should be noted that some blurring of the boundaries between activity groups occurs.

As discussed above, the questionnaire instrument did not require respondents to define which of the simultaneous activities was the main activity and which was secondary. In order to limit the total time to 24 hours we impose alternative definitions of 'main' activity by prioritising certain activities. This allows us to compare the results with surveys which allow only single activities or require respondents to define their main activity. The definition of which activity should be considered the main activity is in some senses arbitrary, however some activities are more likely to be secondary than others. For example listening to the radio and watching TV are often background activities. We are also interested in gender differences in activities such as care and household work, so we do not want to underestimate these. We incorporate these considerations into our priority listing which imposes the following order: 1. childcare and adult care, 2. employment and study, 3. housework and shopping, 4. travel, 5. personal care and eating, 6. leisure and voluntary activity, 7. sleeping and 8. unspecified time-use. If two or more activities are recorded in a time-slot priority is given to the activity that appears first in the list. For example, if care and travel are recorded together, care is defined as the main activity, if employment and leisure (e.g., listening to radio) are recorded together employment is recorded as the main activity.

Table 2.5: Average Time (hh:mm) Spent Per Weekday on Main Activities*

	Care	Emp. and Study	Household Work	Travel	Personal Care and Eating	Leisure, and Vol/Relig. Act.	Sleep	Unspec. Time-Use	Total
All	1:33	4:14	1:53	1:07	1:47	4:58	8:05	0:22	24:00
Male	0:34	5:46	1:08	1:18	1:49	5:09	7:57	0:19	24:00
Female	2:31	2:44	2:36	0:57	1:45	4:48	8:13	0:25	24:00
18-24 years	0:46	5:32	0:38	1:20	1:51	5:27	8:12	0:13	24:00
25-44 years	2:41	5:12	1:30	1:16	1:30	3:52	7:38	0:20	24:00
45-64 years	0:59	3:51	2:37	1:05	1:50	5:08	8:07	0:23	24:00
65+ years	0:32	0:43	2:57	0:31	2:25	7:09	9:08	0:34	24:00
Primary	0:57	2:22	2:41	0:35	2:02	6:07	8:51	0:25	24:00
Junior Certificate or equivalent	1:16	4:23	2:10	0:58	1:49	4:47	8:12	0:24	24:00
Leaving Certificate	1:54	4:20	1:31	1:21	1:45	4:54	7:53	0:22	24:00
Post-secondary	1:51	5:07	1:29	1:22	1:40	4:31	7:43	0:18	24:00
Employed	1:33	6:03	1:21	1:23	1:36	4:03	7:43	0:18	24:00
Self-employed	1:23	7:08	1:01	1:20	1:41	3:40	7:27	0:20	24:00
Student	0:45	5:11	0:37	1:23	2:03	5:21	8:27	0:14	24:00
Unemployed	(0:40)	(0:13)	(1:47)	(0:19)	(2:01)	(9:06)	(9:12)	(0:43)	24:00
Sick/Disabled	(0:58)	(1:07)	(2:39)	(1:01)	(2:11)	(7:37)	(8:05)	(0:23)	24:00
Home Duties	3:26	0:10	4:02	0:39	1:46	5:02	8:24	0:31	24:00
Retired	0:26	0:25	3:01	0:36	2:23	7:35	9:09	0:25	24:00
Other	1:32	3:43	1:41	0:44	1:27	5:58	8:21	0:34	24:00
No Child <18 years	0:30	4:05	1:51	1:05	1:58	5:49	8:20	0:21	24:00
Children <18 years	3:26	4:39	1:58	1:15	1:27	3:25	7:30	0:20	24:00

Notes: Figures are based on weighted data for all adults, 18 years and over.

*Where multiple activities were recorded there is no indicator of which is the main activity. We therefore apply the following priority setting 1. caring, 2. employment and education, 3. housework and shopping, 4. travel, 5. personal care and eating, 6. leisure and voluntary activity, 7. sleeping 8. unspecified: Where there are multiple activities the activity higher up the list is defined as the main activity.

To take account of the arbitrary element of this priority setting we also recalculate the time-use figures using an alternative priority setting which gives precedence to employment/education and gives household work priority over caring (these two activities are often combined but it is not obvious which is the primary and which is the secondary activity). The second priority list is 1. employment and education, 2. travel, 3. personal care and eating, 4. housework and shopping, 5. caring, 6. leisure, voluntary and religious activity, 7. sleeping,

8. unspecified time-use. The results based on this definition of main activity are included in Appendix B. We also include in this Appendix weekday and weekend tables of these activity groupings for the long days described above.

Table 2.6: Average Time (hh:mm) Spent Per Weekend Day on Main Activities*

	Care	Emp. & Study	Household Work	Travel	Personal Care & Eating	Leisure & Vol/ Relig. Activities	Sleep	Unspec. Time-Use	Total
All	1:40	1:23	2:05	0:56	2:00	6:57	8:38	0:20	24:00
Male	0:53	1:52	1:31	1:03	1:60	7:41	8:39	0:20	24:00
Female	2:24	0:56	2:36	0:50	2:01	6:15	8:37	0:20	24:00
18-24 years	0:39	2:26	1:04	0:50	1:56	8:24	8:24	0:15	24:00
25-44 years	2:56	1:13	2:05	1:00	1:45	6:07	8:38	0:17	24:00
45-64 years	1:08	1:26	2:40	0:58	2:12	6:40	8:32	0:25	24:00
65+ years	0:31	0:33	2:10	0:52	2:25	8:01	9:07	0:22	24:00
Primary	0:50	0:50	2:13	0:44	2:03	7:59	8:60	0:21	24:00
Junior Certificate or equivalent	1:31	1:28	2:08	0:51	2:08	6:44	8:47	0:24	24:00
Leaving Certificate	1:54	1:39	1:49	0:53	2:02	7:10	8:15	0:18	24:00
Post-secondary	2:05	1:27	2:11	1:11	1:53	6:20	8:37	0:17	24:00
Employed	1:44	1:27	2:13	1:07	1:55	6:36	8:36	0:22	24:00
Self-employed	1:18	3:43	1:17	0:45	2:04	6:22	8:17	0:14	24:00
Student	0:46	2:49	1:05	0:49	1:55	7:54	8:35	0:06	24:00
Unemployed	(0:54)	(0:01)	(1:15)	(0:27)	(2:12)	(9:59)	(8:45)	(0:26)	24:00
Sick/Disabled	(0:55)	(0:04)	(1:26)	(0:22)	(2:16)	(9:34)	(9:08)	(0:15)	24:00
Home Duties	3:38	0:06	3:05	0:47	1:56	5:21	8:46	0:22	24:00
Retired	0:23	0:13	2:17	1:02	2:22	8:21	9:00	0:22	24:00
Other	1:38	1:04	1:53	1:03	1:49	8:25	7:40	0:29	24:00
No child <18 years	0:25	1:40	1:59	1:01	2:09	7:42	8:43	0:20	24:00
Child(ren)<18 years	3:52	1:05	2:15	0:51	1:44	5:34	8:21	0:18	24:00

Notes: Figures based on weighted data for all adults, 18 years and over.

*Where more than one activity is combined we impose the following priority setting: 1. Caring, 2. Employment and Education, 3. housework and shopping, 4. travel, 5. personal care and eating, 6. Leisure and voluntary activity, 7. sleeping, 8. unspecified. The activity higher up the list is defined as the main activity.

() small n.s make these figures unreliable.

GENDER TIME-USE PATTERNS: MAIN ACTIVITIES

On weekdays women spend almost five times longer on caring activities than men. Domestic labour is also significantly higher for women than men. In contrast, employment/study is significantly higher for men. If we add these three categories together women spend an average of 7 hours 51 minutes on these three activities and men spend an average of 7 hours 28 minutes. Travel time is significantly higher for men than women, which will be influenced by the higher proportion of men working outside the home. Travel time is sometimes added to paid work, unpaid work and caring time to calculate total committed time (the remainder of activities comprising free-time or uncommitted time). Combining these four categories there is no gender difference in average committed time on weekdays. On average men spend 21 minutes more than women on leisure and voluntary activities,⁷ while women spend 16 minutes more time sleeping than men on weekdays. There is no

⁷ It should be remembered that voluntary and religious activity only account for a small proportion of time within this broad category (see Table 2.2). This category includes both active leisure such as physical activity/going out and passive leisure (e.g., watching TV, doing nothing, reading).

gender difference in the average time spent on personal care and eating on weekdays.

Similar gender patterns emerge for the weekend. Men continue to spend longer in paid employment/study (almost one hour more), while women spend twice as much time on caring and household work (5 hours versus 2 hours 24 minutes). This leads to a significant leisure gap between women and men at the weekends: men on average have almost one and a half hours more leisure time than women. On weekend days women and men spend a similar time sleeping, both sleeping more than on weekdays. These gender patterns are also evident when we examine the proportion of the day spent on different activities by women and men (Figure 2.1 and Figure 2.2).

AGE AND TIME-USE PATTERNS

Comparisons of main activities by age show that caring activities peak for those in the 25 to 44 years age group – presumably those with young children – while time spent on employment/ study is highest for those in the 18 to 24 year age group. Those aged 65 years plus record the highest level of household work and personal care/eating time. The oldest age group also report the longest leisure time and the longest average sleep time. Age differences in patterns of time-use are much less pronounced at the weekend. The youngest and eldest group have most leisure time, while those aged 25-44 years and 45-64 years spend more time on caring activities. The youngest group do least household work (as is the case on weekdays) and they have the highest levels of employment/study at weekends, this is likely to be due to combining weekend work with studies.

EDUCATION AND TIME-USE PATTERNS

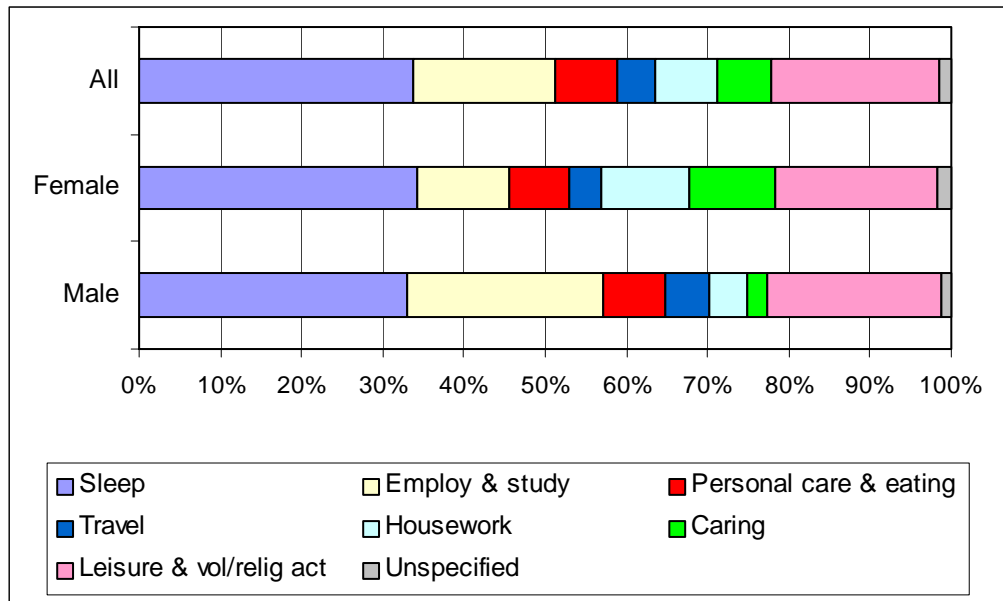
Average time spent on employment/study on weekdays increases with educational level, though this is partially an age effect because educational qualifications are lower amongst older age groups and this group are most likely to be retired. This pattern is not present at weekends. Time spent on caring activity on both weekdays and weekend days is high among the most educated group while household work is lowest among this group on weekdays and average at weekends. Further multivariate analysis controlling for employment status and age would be necessary to establish whether education has any independent effect on time-use patterns.

EMPLOYMENT STATUS AND TIME-USE PATTERNS

Time-Use patterns on weekdays vary strongly with the employment status of respondents. The average hours worked on weekdays is 6 hours among employees and 7 hours among the self-employed. These are lower than self-estimates of working time produced in other surveys, e.g. the QNHS suggests that average weekly work hours are around 37 hours.⁸ The literature suggests self-estimated weekly hours are routinely over-estimated especially for those who record long hours (Gershuny, 2000; Williams, 2004; Robinson and Bostrom, 1994). Part of the reason for this is that time-use estimates exclude breaks from work and also work time spent on non-work activities (e.g., going to the shops, doctor, dentist, etc.).

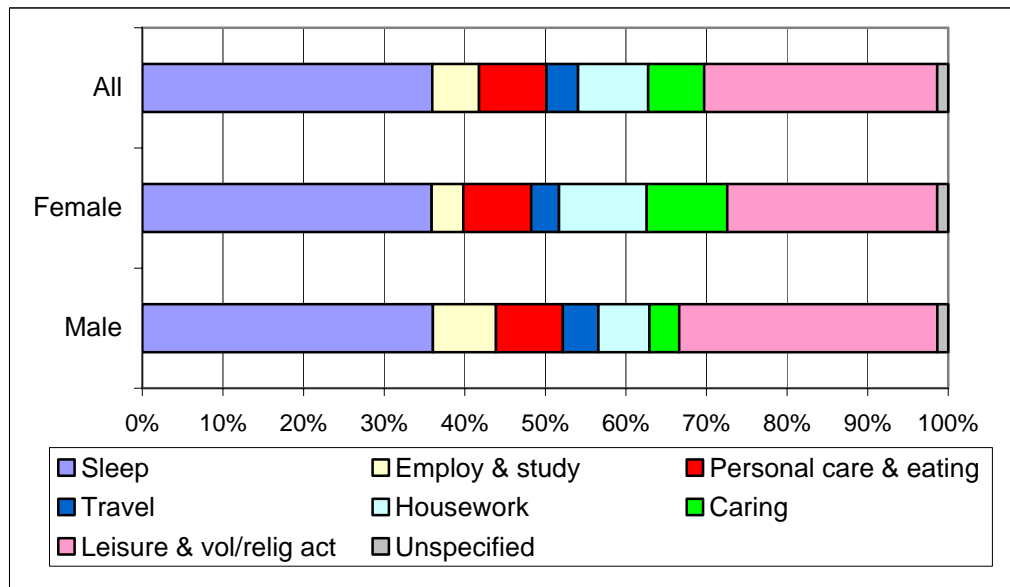
⁸ Quarterly National Household Survey Quarter 2, 2004, CSO. The working time estimates from the time-use survey also contain study time but this is minimal for the employed.

Figure 2.1: Main Activities* Weekdays: Proportion of Time Spent on Activities



*Note: For multiple activities the main activity is defined *post-hoc/ex post* using an imposed priority setting (see text for details).

Figure 2.2: Main Activities* Weekends: Proportion of Time Spent on Activities



*Note: For multiple activities the main activity is defined *post-hoc/ex post* using an imposed priority setting (see text for details).

It is interesting that the employed also have the high levels of caring time, second only to those in home duties. This may be an age/life cycle effect. Those looking after the home or family spend an average of almost three and a half hours on caring activities and four hours on household work on weekdays. It should be noted that the numbers of unemployed and sick/disabled respondents are low and the estimates of time-use for these groups should therefore be treated with caution.

When we examine patterns of time-use at the weekend we see that the activities change substantially for those in employment and students but are more stable for the non-employed. Those in home duties spend an extra 12

minutes on caring and spend almost 1 hour less on household work, so there is only a 45 minute fall in their domestic workload. Time spent on work/study falls by 4 hours 36 minutes among employees (compared to weekdays), caring increases by 11 minutes and household work increases by 52 minutes. The self-employed (including farmers) continue to spend a significant amount of time on work/study at the weekends. Most of the employed substitute their extra time away from work with additional leisure time and sleep. Those in home duties have the least leisure time at the weekends (5 hours 21 minutes per day compared to the average of just under 7 hours).

Table 2.7: Weekday Time-Use Among Full-time and Part-time Workers (Main Activities)

	Care	Emp. and Study	Household Work	Travel	Personal Care & Eating	Leisure, & Vol/Relig Activities	Sleep	Unspec. Time-Use
Employed Full-time								
Male	0.40	7.43	0.46	1.28	1.37	3.59	7.30	0.17
Female	1.49	5.34	1.33	1.24	1.41	3.56	7.46	0.17
Total	1.01	7.04	1.01	1.26	1.39	3.58	7.35	0.17
Part-time								
Male	(0.38)	(5.36)	(0.51)	(1.33)	(2.17)	(4.47)	(8.01)	(0.16)
Female	3.21	3.34	2.44	1.16	1.27	3.27	7.53	0.19
Total	2.51	3.56	2.24	1.19	1.36	3.41	7.55	0.18

Notes: Part-time work is based on self-reported hours from the questionnaire at the back of the diary, less than 30 hours is defined as part-time. Includes employees and the self-employed.

() small numbers make these figures unreliable.

To what extent does the balance of care, employment and household work vary by hours of paid work. Table 2.7 distinguishes weekday time-use of those employed according to whether they are working full-time or part-time (less than 30 hours per week), except teachers, for whom the cut-off is 22 hours. Using this definition 5.8 per cent of men and 39.1 per cent of women in employment work part-time.⁹ Women working full-time do more caring and housework, but spend considerably less time in employment and study than men who are full-time employed. Women employed part-time do much more caring and housework than men or women employed full-time. Total time on paid work, caring and domestic work is highest for women employed part-time (9 hours, 39 minutes). It is lower for women employed full-time (8 hours, 56 minutes) and men employed full-time (9 hours, 9 minutes).

FAMILY STATUS AND TIME-USE PATTERNS

It is clear from Table 2.5 and Table 2.6 that time-use differs substantially between those who have children under 18 years and those who do not. Those with children spend 3 hours and 26 minutes caring on a weekday, 3 hours 52 minutes at the weekend. This compares to a caring time of approximately half an hour for those without children. Those with children also do more paid work, on average, during the week than those without children, though less at weekends. Respondents with children spend less time on personal care and eating and less time sleeping, especially during the week. The most marked difference though is in leisure time. Respondents with children have over 2 hours less leisure than those with no children, both during the week and at weekends.

⁹ Note that some respondents are missing on hours worked and thus excluded from the Table.

2.5 Time-Use Patterns – International Comparisons

A brief comparison of these estimates with Eurostat figures from the Eurostat publication. *How Europeans spend their time* suggests that Irish figures are broadly in line with other European countries in this report, namely: Belgium, Germany, Estonia, France, Hungary, Slovenia, Finland, Sweden, United Kingdom and Norway (Eurostat, 2004b, Tables 1.1 and 1.2). While the categories are almost identical to the activity groups presented above, the Eurostat time-use estimates are a combination of weekdays and weekends, and simultaneous activities are not analysed, so the following comparisons should be treated with caution.

Average hours of sleep in Ireland (8-8 ½ hours) are about average among the countries studied, with women sleeping more than men and employed persons sleeping less than other groups. Irish people tend to spend somewhat less time on meals and personal care than other Europeans (regardless of which priority is imposed). Travel time in Ireland is at the lower end of the spectrum, more similar to France, Hungary and Slovenia than the UK and Belgium. Domestic work is higher for women and about the same as the European average for men. Time spent on paid work for women and men is similar to other European countries, though the Irish estimates for leisure tend to be high relative to our European counterparts. The pattern that women have less leisure time than men is consistent across all European countries, including Ireland. Finally, there is a large difference in the gender division of paid work and domestic work in other European countries, as in Ireland.

2.6 Where People Were and Who They Were With

Social contact (time spent with others) plays an important part in the concept of quality of life (Fisher, 2003). Sections B and C of the diaries ask the respondents to record who they were with and where they were. Gender disaggregated estimates of time spent with children, family members, others and alone are presented in Table 2.8.

Table 2.8: Who Were You With? Time Per Day (hh:mm)

	With Own Children*	With Family (Includes Own Children)	Alone	With Others	Missing
WEEKDAY					
Men	2:25	6:57	5:55	6:19	4:49
Women	4:34	8:58	5:40	5:25	3:56
All	3:30	7:59	5:47	5:52	4:22
WEEKEND					
Men	3:27	9:16	5:52	4:48	4:05
Women	5:35	11:03	4:47	4:20	3:50
All	4:32	10:10	5:19	4:34	3:57

Notes: Results based on weighted data for all adults, 18 years and over.

*With own children includes being with own children in the presence of others. With own children is also counted in 'with family'.

There is a high level of missing data for this item. Despite detailed interviewer briefing and respondent instructions there are also some problems with interpreting this question, which were recorded in the respondents' comments, for example 'What exactly does being alone mean?' This means that the results should be interpreted with caution. It is evident that both women and men spend more time with children at the weekend, and also more time with their own families. Further disaggregation reveals that retired people spend most time on their own, followed by students.

Table 2.9 presents results from the location item. This tends to have less missing hours, and be less prone to interpretation questions. This question is most interesting in conjunction with an activity, for example, investigating the proportion of work done at home and who tends to do it.

Table 2.9: Where Were You? Time Per Day (hh:mm)

	At Home	Away from Home	Missing
WEEKDAY			
Men	13:05	7:45	3:10
Women	16:03	5:50	2:08
All	14:35	6:46	2:39
WEEKEND			
Men	14:43	6:22	2:55
Women	15:19	5:48	2:53
All	15:01	6:05	2:54

Notes: Results based on weighted data for all adults, aged 18 years and over.

2.7 Feeling Stressed During the Diary Day

As a further example of the use of this data, Table 2.10 draws on a question at the end of the diary: “Did you feel rushed or stressed during the diary day?” (See Appendix D for details of this and other questions). The table presents two interesting contrasts: those with children and those without children, and those who are working (employed and self-employed) and those who are not working. The data show that respondents with children and respondents who are working are much more likely to have felt rushed or stressed during the diary day, in line with expectations. It is for these groups that time pressure is greatest.

Table 2.10: Percentage of Those With and Without Children, Working and Not Working Feeling Rushed During the Diary Day (Weekdays, Weighted)

	Children %	No Children %	Working %	Not Working %
Yes, felt rushed most of the day	11.5	6.0	10.4	4.7
Yes, felt rushed some of the	47.6	31.3	45.8	23.2
Did not feel rushed	37.5	58.8	39.5	65.3
Missing	3.4	3.9	4.3	6.9
N of cases	320	641	611	412

Notes: Results based on weighted data. Not all respondents answered the question about having children under 18 years: these results are based on those who did.

2.8 Conclusions

The *Irish National Time-Use Survey 2005* provides important information on the patterns of time-use of women and men in Ireland. This chapter has highlighted interesting differences in the household division of labour, and variation in time-use by age, employment status, family status, and to a lesser extent educational level. The substantial gender differences in the time spent on unpaid work and caring time in Ireland are quantified here for the first time. On weekdays women spend an average of just over 5 hours on these activities compared to 1 hour 40 minutes for men. In contrast, men spend substantially more time than women on travel and employment. Age differences in time-use are particularly pronounced on weekdays, with work/study time decreasing with age and leisure time increasing with age. As expected, time-use patterns vary strongly with employment status particularly during weekdays. Those with children under 18 years had significantly less leisure time and sleeping time than those without children. We have also shown that women, carers and those with children spend a greater proportion of the day doing multiple activities at once. Those with children are also more likely to feel rushed and stressed during the day. These descriptive findings suggest that time-use in Ireland follows broadly similar patterns to that of our European counterparts.

3. METHODOLOGY: COLLECTING TIME-USE DATA

3.1 Introduction

In this chapter we consider various aspects of methodology and implementation of the time-use survey. We begin by discussing sampling and sample design, followed by a discussion of the structure of the questionnaire (Section 3.3). In Section 3.4 we consider operational and field procedures. In Section 3.5 we present summary information on response rates – at both the household and individual levels. We discuss data preparation in Section 3.6 and reweighting of the data prior to analysis in Section 3.7. The final section briefly outlines some respondent reactions to the instruments used in the course of the survey in terms of perceived problems in completing the questionnaire.

3.2 Sampling and Sample Design

The data which form the basis of this report were collected over a nine week period from 22nd April to 1st July 2005 in a single-purpose, dedicated, nationally representative survey carried out following an open, competitive tendering process by The Economic and Social Research Institute on behalf of the National Development Plan Gender Equality Unit of the Department of Justice, Equality and Law Reform.

To select a nationally representative random sample a two-staged clustered design was adopted, based on the National Electoral Register as a population frame.¹⁰ The ESRI's computerised RANSAM system was used for sampling purposes. The Primary Sampling Units (or sampling points) were selected at random by effectively restructuring the Polling Books of the Electoral Register. In restructuring the Register and setting up the Primary Sampling Units a minimum population threshold of 1,000 persons (electors) was used to generate the national set of PSU's. A random sample of 94 PSU's was selected at the first stage of sample selection. Once these were identified a random sample of 12 households was selected from within each PSU at the second stage of sample selection. The resultant 1,128 households made up the target sample for field interviewers.

When field staff approached the selected households they attempted to recruit *all* persons aged 18 years and over into the sample.¹¹ Each such adult was asked to complete a weekday and also a weekend diary on two days specified by the interviewer (see Section 3.4).

¹⁰ The sampling frame targets those living in private, permanent households, as is common practice in surveys of this nature. This excludes, for example, the homeless, and those living in institutions like prisons and nursing homes.

¹¹ Because of the limited sample in this case, the target was 500 men and 500 women, it was decided to focus on adults. Other surveys focus on all household members over 15 years or even as young as 10 years but studies have shown time-use differs markedly between young people and adults.

3.3 The Survey Instruments

The instruments consisted of three main documents. First, we had a Household Record Sheet which was completed by the Household Reference Person at each address. This was effectively a small household-level questionnaire (see copy in Appendix D). The Household Record Sheet recorded the following information:

- the composition of the household (all members regardless of age or status);
- gender of all members;
- age at last birthday of all members;
- principal economic status of all members;
- highest level of educational attainment of all members;
- inter-relationship matrix recording details on how each member of the household is related to each other member;
- total household income from a set of 12 categories;
- number of persons eligible to complete the time-use diary;
- number of weekday diaries completed;
- number of weekend diaries completed;
- outcome/response codes at both household and individual levels.

Two time-use diaries were devised to record the relevant information. One of these, the so-called ‘weekday diary’, was to be completed by the respondents on a weekday specified by the interviewer. The other diary, the ‘weekend diary’, was to be completed by the respondent on a weekend day to be specified by the interviewer.

The primary purpose of the diary was to record how the respondent spent his/her time in blocks of 15 minutes in each of the two reference days in question.¹² A total of 96, 15-minute blocks constitute a day. The diary ran from 4.00 a.m. to 4.00 a.m. the following morning broken down into the 15-minute blocks or “time slots”.¹³ The diaries were colour coded (white for weekend and yellow for weekday) to facilitate completion.

In recording activities the respondent was asked to tick (✓) a box for each 15-minute time slot to indicate which of twenty-six activities he/she was engaged in throughout the day.¹⁴

MULTIPLE ACTIVITIES

It has been established in previous research on time-use that people do not always do one activity at a time, rather they often combine activities. Certain types of activity are more likely to be combined than others, for example, childcare is commonly found in combination with others. An instrument which records only one activity will systematically under-represent activities often done in combination. To avoid this, we asked respondents to tick up to two activities. In actual fact many recorded more than this, of which we recorded up to four at any one time. A total of 63 per cent of weekday diaries have some time slots which record two or more simultaneous activities; 27 per cent have some time slots with 3 or more activities; 11 per cent contain 4 or more activities. We did not ask respondents to assign a main activity for each time slot because we felt this would impose excessive respondent burden

¹² 15 minutes was deemed to be a compromise between 10 and 20 minutes in terms of respondent burden and detail of response. 15 minutes is a commonly used unit of time in time-use surveys.

¹³ It is conventional for time diaries to start at 4 a.m. in the morning. It has the advantage that the first time slots are easy to fill out as the vast majority of respondents are sleeping at this time.

¹⁴ On the basis of the pilot study, in which we tested ticks and lines, diaries with ticks were better filled out and easier to decipher, so we used ticks in the main survey. Further details of the pilot can be found in the next section.

within a self-administered questionnaire.¹⁵ Light questionnaires administered by interviewers have asked respondents to define primary and secondary activities. However, even with self-definition there will remain an element of arbitrariness in which activities are defined as primary and secondary.

‘WHO WERE YOU WITH’ AND LOCATION QUESTION

As well as recording which activities the respondent participated in during each 15 minute time slot – he/she also recorded:

- (a) Whom they were with in the course of that activity: No one; Spouse/Partner; own children under 18 yrs; other person or persons I know.
- (b) Where the activity took place – at home or away from home.

When the respondent had completed the detailed section on activities in each 15 minute time slot he/she was asked to record details on issues such as whether or not:

- the diary day was unusual in any way;
- the respondent felt rushed in the course of the day;
- the respondent travelled to work on the diary day and, if so, by what mode of transport;
- the respondent encountered any problems in completing the diary and, if so, the nature of the problems.

As noted above, we used two versions of the diary – a weekday and weekend day diary. Clearly, details of activity(ies) engaged in and the characteristics of the diary day were recorded in respect of both diaries. In addition, on the weekend diary we also recorded standard demographic information which was subsequently used for classifying respondents. These included gender, level of educational attainment, age etc. A copy of the household record sheet; the weekday and the weekend day diaries can be found in Appendix D.

3.4 Operational and Field Procedures

Each interviewer was given 1-2 work assignments (clusters) each of 12 addresses. The interviewer called cold to each address. After introducing him/herself and showing a photo ID card the interviewer explained the survey to the household. He/she gave a copy of a brochure¹⁶ prepared for the Time-use project to the household. This provided some background and general information on the survey and, accordingly, assisted in explaining its objectives and operational details. A further very important function of the brochure was to provide a contact name, address and phone number of the ESRI in case any of the respondents in the household should wish to contact the Institute after the survey had been completed.

The interviewer attempted to discuss the survey with the Household Reference Person and also as many of the adults in the household as were present on the interviewer’s first visit. The Household Reference Person was defined as the person who owned the house or in whose name it was rented. Where the house was jointly owned/rented by a number of members the older of those equally responsible for the household was identified as the Household Reference Person.

A household was defined as a group of persons living together, sharing some form of communal budgeting arrangements and usually meeting at least

¹⁵ For each time slot with two or more activities the respondent would have had to indicate which one was the primary activity by, for example, filling out the code of that activity in a separate row of the diary.

¹⁶ A dedicated brochure is produced for all ESRI field projects.

once per week for a communal meal. This is the usual definition of household as adopted in all surveys of this nature.

The interviewer explained the background to the survey and also went through all questionnaires and instrument with household members on his/her first visit. The interviewer also completed the Household Record Sheet with the Household Reference Person. Clearly, the interviewer could not access all members of the household on one visit. Accordingly, the household reference person or other appropriate responsible adult identified by the interviewer was asked to relay the information on completing the diaries to other household members whom the interviewer did not meet in person on his/her first visit to the household. It was seen as crucial to get the household reference person engaged, as it was up to them to encourage other household members to participate. A copy of a completed sample diary with instructions to the respondent was left with the diaries for each adult member of the households (see Appendix A).

We would emphasise that the diaries were essentially filled out on a self-completion basis. Accordingly, the structure and content of the diary was relatively straightforward and was designed for self-completion by the respondent in the absence of the interviewer.

The diaries were assigned to each individual adult/household member as recorded on the Household Record Sheet. The interviewer wrote the first name and within household reference number on the front of each diary. In addition, the interviewer also wrote on the front cover of each diary left with the household the day and date it was to be completed. The reference day for all diaries left in a household was the same for all members. In other words, *all* household members would be asked to fill out the weekday diary on, for example, a Wednesday and the weekend diary on either Saturday or Sunday. No attempt was made to rotate diary reference days or assign different reference days within the household. This was to allow intra-household time-use comparisons (for example partners'/spouses' time-use).

The ESRI assigned diary reference days in such a way as to ensure that 50 per cent of completed diaries were filled out at the weekends the other 50 per cent during the week. Weekday diary completion dates were assigned by ESRI head office and printed onto the interviewer's work assignment sheet for each cluster. The weekdays were assigned to ensure that 20 per cent of completed diaries would be filled out on each of the five weekdays while half of the weekend diaries would be completed on each of Saturday and Sunday.

The interviewer left the appropriate diaries with reference numbers, dates and first name assigned along with respondent instructions and worked example of a section from a completed diary. In addition, he/she recorded the phone number of the household. The interviewer rang the household the day before the diary reference day to remind the household to complete the diaries on the following day.

When the interviewer returned to collect the diaries he/she checked them to ensure that the classificatory information on the back of each diary was completed as fully as possible. All completed diaries and Household Record Sheets were returned to the ESRI by the interviewer – not by the household.

We should point out that no financial or other incentive of any sort was offered to respondents or the household reference person to recruit them into the sample.

A pilot study for the project was carried out in April 2005. This involved completing questionnaires with 68 households – 55 of whom participated in full (i.e. all eligible respondents completed both questionnaires, the remaining 13 having partially participated in the survey). A total of 264 diaries were completed in the pilot. The questionnaire used in the pilot differed in some important details from that used in the main survey. The most important difference was in the activity categories. Given these changes we were not able to incorporate the pilot diaries into the main study.

3.5 Response Rates

As noted above, the sample was selected as 94 clusters each of 12 households. As is clear from the preceding sections, we attempted to recruit households into the sample and, subsequently, to recruit all adults in those households to complete the two diaries. Accordingly, response levels must be considered at two levels, viz. at the household level and at the individual level. We begin by considering household response rates in Table 3.1.

HOUSEHOLD-LEVEL RESPONSE RATES

From the table one can see that a total of 395 households participated in full in the survey in the sense that all members who were eligible to complete diaries completed both diaries. A further 190 households partially participated – in the sense that not all members aged 18 years and over completed both diaries. In these households some members may not have participated in the survey at all or may have completed only one of their two diaries. We regard as participating in the survey those households who completed at least one diary (regardless of how many they should have completed). We identified 1,009 valid households in the course of fieldwork and secured co-operation (complete or partial) from 585 (58 per cent).

Table 3.1: Household Level Response Rate to Time-Use Survey

Outcome	No.	Per Cent
Valid contacts:		
Household Participated in full	395	39.1
Household Partially Participated	190	18.8
Household Refused to Participate	258	25.6
No one ever at home despite repeated call backs	124	12.3
Other	42	4.2
Total Above	1,009	100.0
<i>Ineligible</i>		
Vacant	52	
Institute	20	
Derelict / Demolished	6	
Could not find address	41	
Total Above	119	

The 119 addresses referred to in the lower section of Table 3.1 were ineligible for inclusion in the survey and so are excluded from the calculation of response rates.

INDIVIDUAL-LEVEL RESPONSE RATES

The 585 households that participated in the survey contained a total of 1,377 eligible persons – i.e., those aged 18 years or over. We secured the co-operation (at least in part) of 1,143 of these household members. This gives a *gross* individual-level response within participating households of 83 per cent (1,143 from 1,377 eligible members who should have participated).

As noted below, not all diaries that were completed by household members could be used in the analysis – due to high levels of item non-response on activities engaged in. In other words, the diaries of some household members contained so many timeslots with missing information that we were unable to use them in the analysis. Therefore, although we had diaries completed by the 1,143 participating members in the 585 households in question we could not use all of them in our analysis. Table 3.2 outlines the breakdown of the 1,143 participating members who contributed in some degree to the diary component of the survey, broken down according to the number of timeslots completed in both weekday and weekend diary.

Table 3.2: Individuals According to Number of Timeslots Completed in Diaries

No. of Timeslots Completed in Weekday Diaries	No. of Timeslots Completed in Weekend Diary		Total
	0-80	81-96	
0-80	54	66	120
81-96	64	959	1,023
Total	118	1,025	1,143

From the table one can see that we had 118 individuals who completed 80 or less timeslots in their weekend diary. A further 1,025 completed 81 or more timeslots. As discussed below in the section on data preparation, in the analysis we used diaries which had 81 or more timeslots completed. Accordingly, we used 1,025 weekend diaries for analysis.

Similarly, we had a total of 120 weekday diaries which had 80 or less timeslots completed: 1,023 with 81 or more timeslots completed. This meant that we used 1,023 weekday diaries for analysis. The italicised bold number in Table 3.2 indicates that 54 participants contributed diaries which had less than 81 timeslots completed for both the weekday and weekend. This meant that no diaries from the 54 individuals involved could be used in the analysis. Accordingly, we were able to analyse diaries from 1,089 individuals in participating households (1,143 minus 54). A *net* response rate among eligible household members could, therefore, be calculated as 79 per cent (1,089 contributing a *usable* diary from the 1,377 eligible individuals resident in the households which participated in the survey). The difference between gross and net individual response rates is attributable to quality control in the use of the information provided.

A further response rate can be based on the number of diaries completed – in contrast to the number of individuals completing them. If all of the 1,377 eligible members in the 585 participating households had successfully and comprehensively completed their weekday and weekend diary we would have had 2,754 diaries for analysis. We actually had a total of 2,048 diaries for analysis (1,025 weekend and 1,023 weekday diaries). This means that we successfully secured 74.4 per cent of *eligible diaries* for analysis.

The three levels of response rates are summarised in Table 3.3 below. This shows a household level response of 58 per cent. The response rate at the level of individuals who contributed at least 1 usable diary was 79 per cent and the response rate measured in terms of usable diaries within participating households was 74 per cent.

Table 3.3: Summary of Three Levels of Response Rates

Response Rate	Per Cent
Household level response rate	57.9 per cent
Eligible individuals contributing at least 1 diary – <i>Gross</i> individual response rate	83.0 per cent
Eligible individuals contributing at least 1 usable diary – <i>Net</i> individual response rate	79.1 per cent
Usable diaries as a percentage of 'potential' diaries	74.4 per cent

3.6 Data Preparation

The core information on the questionnaire was obviously the details on the activity or activities engaged in by the respondent in each 15-minute time slot throughout the day. The respondent was asked to indicate which activities were relevant by putting an appropriate tick (✓) in each time slot.

When the data had been entered onto the system we examined each record to ensure comprehensiveness of completion and also to gain an intuitive sense of the distribution of activities. This latter involved checking to see if, for example, wild codes appeared to have been entered out of place – for example,

a 15-minute slot having been coded as sleeping in the middle of the day during what was obviously an otherwise continuous period of paid employment.

The comprehensiveness of completion of questionnaires involves examining the extent to which respondents actually record an activity or activities for each of the 96, 15-minute time slots throughout the day. From Table 3.2 we can see that 1,023 respondents completed more than 80 time-slots in the weekday diaries and 1,025 respondents completed more than 80 in the weekend diaries. A diary containing 80 or less completed time-slots had more than 4 hours unspecified or missing time which had not been assigned to an activity by the respondent. In the analysis in subsequent chapters we have excluded all diaries which did not have at least 81 time-slots completed.¹⁷ This means that we had 1,023 usable weekday and 1,025 usable weekend diaries. It is these which form the basis of the analysis in the report.

The reader will note that we report an "unspecified time" in the tables presented in Chapter 2. This "unspecified time" relates to those diaries in which an activity was recorded in respect of only 81-95 time-slots. One can see, for example, from Table 2.2 that the overall daily average of unspecified time on weekdays was 22 minutes (out of 24 hours) while the comparable figure for weekend days was 21 minutes.¹⁸

The reference day for weekday diaries was distributed evenly throughout the week. As outlined in Table 3.4 approximately 20 per cent of diaries were completed on each day. Usable weekend diaries were evenly distributed between Saturdays and Sundays.

Table 3.4: Distribution of Weekday Diaries by Day of the Week

	Weekday Diaries	
	(n)	(%)
Monday	200	19.6
Tuesday	206	20.1
Wednesday	200	19.6
Thursday	214	20.9
Friday	202	19.7
Not Specified	1	0.1
Total	1,023	100.0

Respondents were asked to record when (within or close to the reference day) the diaries were completed. They were presented with 4 pre-coded options as outlined in Table 3.5. From this one can see that 16 per cent of weekday diaries were completed "now and then" during the diary day itself with 36 per cent being completed at the end of the diary day and 31 per cent in the following day. Just over 17 per cent were completed more than 24 hours after the diary day. The distribution of completion times is broadly similar for weekend diaries with 15 per cent being completed throughout the diary day; 26 per cent at the end of the day; 37 per cent the day after the diary day and 21 per cent being completed more than 24 hours later.

Table 3.5: Distribution of Usable Diaries Classified According to When the Diary Was Completed

When did you complete the diary?	Weekday (%)	Weekend (%)
Now and then during the diary day	16.0	15.4
At the end of the diary day	35.8	26.4
Day after the diary day	30.7	37.2
Later	17.5	21.0
	100.0	100.0

¹⁷ As this study was essentially a scoping study we wanted to include as much information from the survey as possible, including information on unspecified time-use. However, diaries with fewer than 80 time slots tended to be of such poor quality and had so much unaccounted for time-use we excluded them.

¹⁸ This table is based on diaries with more than 80 time slots.

3.7 Reweighting the Data

The data recorded in the survey were re-weighted or statistically adjusted in line with known population parameters prior to analysis. The purpose of weighting is to compensate for any biases in the distribution of characteristics in the completed sample survey as compared to the population of interest. Such biases may occur because of sampling error, from the nature of the sampling frame or as a result of differential non-response rates between different subgroups of the population.

Regardless of the origin of the discrepancy between the sample and population distributions one should adjust the distributional characteristics of the sample in line with known external parameters for the population. These generally include characteristics such as age, gender, region, economic status etc.

The nature of the sample and the analysis derived from it determined our approach to weighting. We remind the reader that a random sample of households was selected and that all adults in the targeted household were then asked to complete the two diaries. The weighting scheme was applied in two stages. At the first stage of weighting a *household-level* weight was calculated to account for differential selection and response probabilities between households of different composition and characteristics. This household-level weight is applied to each individual (adult) respondent in the household who completed the questionnaire. This is then used as a base weight for deriving a second stage of weighting at the level of the individual respondent. In summary, therefore, one derives a household-level weight. One applies this to the individual-level data and uses this *household* weight as a base weight for deriving the final *individual-level* weight. Details of how the weights were derived are presented in Appendix C. All tables presented in this report are based on these reweighted data.

3.8 Respondent Feedback and Problems in Completing the Instruments

As noted above, we excluded diaries which had a relatively high level of item non-response on recorded activities in the reference day. Table 3.6 presents details on the relationship between rejection of diaries on the basis of incomplete activity records and age, level of educational attainment and gender. The figures in the table show the percentage of cases within the category that were not used in the analysis – a diary rejection rate. From the figures one can see that there is a marginally (though not significantly) higher incidence of diary rejection among males. The gender differences, however, are trivial. In contrast, the figures clearly illustrate that there is a relatively strong relationship with age. For example, one can see that 9 per cent of diaries of 18-29 year olds were excluded from the analysis on the basis of an incomplete activity record. The comparable figure for persons aged 65 years or more is about 13 per cent for weekend diaries and just under 16 per cent for weekday diaries.

From the final section in the table one can see that rejection rates are negatively related to level of educational attainment. We would point out that the relationship with education may be driven to a large degree by age – those with lower levels of attainment have a higher probability of being older. We would further point out that these diary rejection levels relate only to those who partially completed the diary in the first instance.

Table 3.6: Percentage of Weekday and Weekend Diaries Classified as Unusable

Characteristic of Respondent	Percentage Classified Unusable	
	Weekday	Weekend
Gender:		
Male	11.4	10.7
Female	9.5	9.9
Age:		
18-29 years	9.1	8.6
30-39 years	6.8	5.3
40-49 years	8.0	7.5
50-64 years	11.7	13.8
65+ years	15.8	13.5
Level of Educational Attainment:		
No formal education	16.9	21.8
Junior Certificate or equivalent	11.7	9.8
Leaving Certificate	10.8	9.8
Post Leaving Certificate	6.6	6.0

In the course of the survey respondents were asked to indicate whether or not they had experienced any problems in filling out the diaries. A total of 6.4 per cent of *usable* weekday diaries and 6.1 per cent of unusable weekend diaries recorded that problems had been experienced in their completion. The incidence of recorded problems among respondents whose diaries were classified as usable was not related to any of the standard socio-demographic variables such as gender, age, level of educational attainment. The most frequently identified problems are outlined in Table 3.7 below.

In interpreting the figures in Table 3.7 the reader is reminded that the figures on the nature of the problem relate to the relatively small percentage (approximately 6 per cent) of *usable* diaries that recorded having experienced problems in their completion.

Table 3.7: Breakdown of Problems Encountered in Completing Weekday and Weekend Diaries Among Those Who Recorded Experiencing a Problem

	Weekday	Weekend
Per cent recording problem	6.4	6.1
Nature of problem	Per cent recording specified problem	
Time consuming/too busy	17.2	19.1
Tedious to complete	31.3	19.7
Too long/complicated/detailed	29.7	23.0
Remembering to complete it	3.1	3.3
Other	18.7	34.3
Total	100.0	100.0

4. CONCLUSIONS AND IMPLICATIONS

The main objective of this study was to determine the feasibility of a light diary instrument for estimating time-use of women and men in Ireland. The scoping survey was successfully conducted by the ESRI on behalf of the NDP Gender Equality Unit of the Department of Justice, Equality and Law Reform following an open, competitive tendering process. The experience clearly indicates that a larger-scale survey, which would allow a finer subdivision of the population, would be feasible in Ireland. As noted in the introduction, a regular survey would also add value to international research on time-use patterns and is urgently needed to study change in Ireland. Here we first reflect on lessons learned from this scoping exercise which should be considered in carrying out a large-scale survey and then summarise the main findings of the survey regarding time-use in Ireland.

4.1 Implications for Future Time-Use Surveys in Ireland

The light diary piloted worked very well and is an effective instrument for collecting data on time-use in Ireland. The overall household response rate was acceptable at 58 per cent¹⁹ and over 90 per cent of the diaries were usable (that is had 20 hours or more filled in). The individual response rates within households was also high at 79.1 per cent. The successful completion of the fieldwork and the coding within a tight time frame demonstrates that the survey is operationally feasible. Crucially, the results presented in this report show that the data collected through this instrument are credible and internally validated. For example, the amount of time spent in paid work is high amongst the employed and self-employed and is minimal for the unemployed and the retired. The distribution of time across activities by sex, age and parental status are also highly credible. Moreover, the results are consistent with those produced in international time-use surveys.

The light diary piloted in this study has clear advantages over a heavy diary in terms of cost effectiveness, respondent burden, data entry/coding time and turnaround time for the results. Given these advantages, the quality of the data, and the acceptable response rates achieved, we would strongly recommend the light diary methodology for future collection of time-use data in Ireland. Using a household sample substantially decreased costs²⁰ and allows analysts to study intra-household/couple distributions of time-use.

Within this overall positive evaluation of the light diary methodology, there are nevertheless a number of recommendations that arise from the experience of the scoping study for future collection of time-use data.

¹⁹ In the Multinational Time-Use Study 16 surveys have response rates between 50 per cent and 69 per cent (Fisher *et al.*, 2000).

²⁰ In the current survey we achieved approximately 3.8 diaries per household so switching to a one-individual one-diary day design would lead to an almost fourfold increase in fieldwork costs.

RESPONSE RATES

The response rates could be further improved through a number of means. First, through the extension of the fieldwork period. Due to the tender requirements the fieldwork for the current survey was limited to eight weeks. Extending this period would allow a higher number of call-backs by interviewers, and this would improve response rates. A second method of increasing response rates is through interviewer administration. This could be either as a self-completion ‘under supervision’, or as a diary filled out by the interviewer – or a combination of both methods. This strategy is likely to particularly improve response rates among certain groups who had difficulty with the instrument (and with questionnaires more generally) such as the elderly and those with low levels of education. However, this would mean that the diary could not be filled-out contemporaneously but would have to refer to the previous day. In addition, interviewer administered questionnaires are more labour intensive, may not be able to target all household members without many call-backs, and are therefore much more expensive than having self-completion diaries as in this study.

DIARY INSTRUMENT

The core element of the diary instrument – the 26 activity codes and the 96 time slots – worked well. The choice of the activity codes is crucial in a light diary instrument because if activities are not distinguished in the diary it is not possible with this method to distinguish them *ex post*, as is possible using a heavy diary.

One point requiring attention is that of multiple activities. Multiple activities proved to be problematic at the analysis stage. Therefore, it would be of benefit if a future light diary asked respondents to indicate which of the activities is their main or primary activity i.e., the activity that demanded most of their attention.

As the location questions had high item non-response, we would recommend that instead of a location code for each item a location dimension be incorporated into certain key categories like employment and eating,²¹ to give, for example, ‘paid work at home’ and ‘paid work not at home’. This would allow analysts to distinguish patterns of working at home and how this varies within the population.

SAMPLE SIZE

The current nationally representative sample of 1,000 individuals provides accurate estimates of time-use in Ireland and across broad population groups e.g., gender, age groups etc. However, in order to examine time-use amongst smaller subgroups (e.g. the disabled, the unemployed, those with young children) or to analyse detailed regional differences a bigger sample would be necessary. The size of the sample required would depend on the degree of disaggregation required. For example, to disaggregate to the eight planning regions (NUTS3) would require a minimum sample of 8,000 individuals or 4,500 households.

TIMESCALE

Fieldwork for this survey was carried out from 22 April to 1 July 2005. In a full-scale survey the days would ideally be equally distributed throughout the year, as is strongly recommended in the Eurostat *Guidelines on harmonised European time-use surveys* (Eurostat, 2004a). This however would have

²¹ Eating at home relates to debates on self-provisioning (Gershuny, 2000).

implications for the conduct of the fieldwork and for the timeliness of the delivery of the data.

Ideally an Irish light time-use survey would be repeated at regular intervals over time so it could be used to address crucial issues of how patterns of time-use in Ireland are changing. This is also recommended by the National Statistics Board *Strategy for Statistics 2003-2008*, which states that "... the Board is also of the opinion that, following similar developments in other countries, serious consideration should now be given to undertaking a Time-Use Survey, perhaps every five years. Such a survey would help us to underpin our understanding of a wide range of issues particularly in relation to unpaid work – such as women working in the home, care of the elderly and children and voluntary involvement in the community and sporting bodies. These activities cannot be adequately monitored by any of the existing survey or administrative data sources".

4.2 Summary of Findings on Time-Use

The *Irish National Time-Use Survey 2005* required respondents to provide information on two 24-hour periods, one weekday and one weekend day. A total of 26 activity categories were specified: 4 relating to personal care and sleep/rest, 1 for travel, 3 relating to employment and study, 4 household-work activities, 3 caring activities, 1 each for voluntary work and religious activity, and 8 leisure activities. A total of 2,048 usable diaries were collected from 1,089 individuals in 585 households.

We first examined the total amount of time spent on each activity, including time spent doing multiple activities. Since this involves double counting of periods where respondents are doing more than one activity, the total time per day adds to more than 24 hours. Our second measure of time-use treats multiple activities on a different basis, instead of counting time on every activity, we impose priorities which define one of the multiple activities as the main activity. The priority imposed in the tables presented here are: 1 childcare and adult care, 2 employment and study, 3 housework and shopping, 4 travel, 5 personal care and eating, 6 leisure and voluntary activity, 7 sleeping, 8 unspecified time-use. So for example, if a respondent records that during a period they were watching TV and doing the ironing we would allocate the time to household work rather than watching TV. If someone was travelling and reading, the time is allocated to travel. This is of course only one of many ways in which priorities can be assigned: results using one alternative set of priorities are presented in Appendix B.

Using this priority setting, we found that on *weekdays* Irish people spend an average of 8 hours 5 minutes sleeping; 4 hours 14 minutes working/studying; 1 hour and 53 minutes on household work; 1 hour 33 minutes providing care for others; around 1 hour and 45 minutes on eating and personal care; 1 hour and 7 minutes on travel and just under 5 hours on leisure and voluntary/religious activities. While these figures represent the average day of the population it is unlikely to represent the typical day of any one person. For example, employees spend 6 hours working, on average, and the self-employed spend 7 hours in employment. Those in home duties spend over 7 hours on a combination of caring and household work, while the retired spend, on average, 7 hours and 30 minutes on leisure and voluntary/religious activities.

Time-Use on main activities is also found to vary significantly by sex, family status, age and to a lesser extent educational level. There are substantial gender differences in the time spent on unpaid work and caring time in Ireland which are quantified here for the first time. On weekdays women spend an average of just over 5 hours on these activities compared to 1 hour 40 minutes for men. In contrast, men spend substantially more time than women on travel and employment. This leads to gender equality in total committed time on weekdays. However at weekends, women and men's employment time declines but women's unpaid work and caring time remains virtually unchanged. This

leads to a significant gender gap in leisure time (and in uncommitted time more generally).

Age differences in time-use are particularly pronounced on weekdays, with work/study time decreasing with age and leisure time increasing with age. Older people are also found to engage in a high level of household work while those aged 18-24 years spend least time on housework.

It will be of no surprise to parents that we found those with children under 18 years had significantly less leisure time and sleeping time than those without children. These differences were evident on both weekdays and weekends.

Time spent on employment and study and caring was higher amongst the highest educated groups. It is likely that some of this relationship is in fact due to age as the youngest age group have higher qualifications. Further multivariate analysis is needed to separate out the effect of education and age.

Our findings suggest that time-use in Ireland follows broadly similar patterns to that of our European counterparts: there is a substantial difference in the gender division of gainful work and domestic work; employed persons sleep less and have less free time; women have less leisure time than men, and those with children have less leisure time than those without children.

4.3 Conclusions

The *Irish National Time-Use Survey 2005* provides us with important baseline information on the patterns of time-use of women and men in Ireland and highlights interesting differences by age, gender, employment status, educational level and family status. The survey allows time-use in Ireland to be compared to that elsewhere in Europe and worldwide, for the first time. The extremely wide ranging applications of time-use data outlined in Chapter 1 suggest that this survey and future time-use surveys will provide an important database for social science and policy research in Ireland.

REFERENCES

- ANDORKA, R., 1987. "Time Budgets and Their Uses", *Annual Review of Sociology* Vol. 13, pp.149-164.
- ATKINSON, A.B., J. GOMULKA, and H. SUTHERLAND, 1988. "Grossing-up FES data for tax-benefit models" in A.B. Atkinson, and H. Sutherland (eds.), *Tax-Benefit Models*, STICERD, London: LSE.
- BIANCHI, S., M. MILKIE, L. SAYER, and J. ROBINSON, 2000. "Is anyone doing the housework? Trends in the gender division of household labor." *Social Forces*, Vol. 79, pp. 191-228.
- BITTMAN, M., 2004. Parenting and Employment: What Time-Use Surveys Show in N. Folbre and M. Bittman (eds.), *Family Time: The Social Organization of Care*, Routledge: London.
- BITTMAN, M., P. ENGLAND, L. SAYER, N. FOLBRE and G. MATHESON, 2003. "When does Gender Trump Money? Bargaining and Time in Household Work", *American Journal of Sociology*, Vol. 109, No. 1.
- BLAU, F. and M. FERBER, 1992. *The Economics of Women, Men and Work*, New Jersey: Prentice Hall.
- BUDIG, M. and N. FOLBRE, 2004. "Activity, proximity, or responsibility? Measuring parental childcare time", in N. Folbre and M. Bittman (eds.), *Family Time: The Social Organization of Care*, Routledge: London.
- CENTRAL STATISTICS OFFICE, 1999. *Report on Pilot Time-Use Survey June 1997*. Cork: Central Statistics Office.
- CHARLEMAIGNE, C. and A. GAUTHIER, 2005. "Are Canadian Seniors Becoming More Active: Evidence from Time-Use Data", *Canadian Journal on Ageing*, Vol. 24, No. 1.
- EUROSTAT, 2003. *How women and men spend their time. Results from 13 European countries. Statistics in Focus*, Theme 3 - 12/2003. Luxembourg: Eurostat.
- EUROSTAT, 2004a. *Guidelines on Harmonised European time-use surveys*. Luxembourg: Eurostat.
- EUROSTAT, 2004b. *How Europeans spend their time. Everyday life of women and men. Data 1998-2002*. Luxembourg: Eurostat.
- FAHEY, T., 1992. "Housework, the Household Economy and Economic Development in Ireland since the 1920s", *Irish Journal of Sociology*, Vol. 2, pp. 42-69.
- FAHEY, T., B. HAYES, and R. SINNOTT, 2005. *Conflict and Consensus. A study of values and attitudes in the Republic of Ireland and Northern Ireland*. Dublin: Institute Public Administration.
- FISHER, K., 2003. *Quality of life in Europe: an illustrative report*. Dublin: European Foundation for the Improvement of Living and Working Conditions.
- FISHER, K., J. GERSHUNY, A. GAUTHIER, C. VICTORINO, 2000. *Exploring New Ground for Using the Multinational Time-Use Study*. Working Paper, ESRC research Centre on Micro-Social Change, Colchester: University of Essex.
- GERSHUNY, J., 2000. *Changing Times. Work and Leisure in post-industrial society*, Oxford: Oxford University Press.
- GERSHUNY, J., 2003. *Time and the socioeconomic atom*. The Geary Lecture 2003. Dublin: The Economic and Social Research Institute.
- GERSHUNY, J. and R. SMITH, 1995. *Report to the Central Statistical Office on the Development of a Simple Time Diary Schedule*. ESRC Research Centre on Microsocial Change. Colchester: University of Essex.
- GOLDSCHMIDT-CLERMONT, L. and E. PAGNOSSIN-ALIGARKIS, 1999. "Households' non-SNA production: labour time, value of labour and of product, and contribution to extended private consumption", *Review of Income and Wealth*, Vol. 45, p.4.
- GOMULKA, J., 1992. "Grossing up re-visited" in R. Hancock and H Sutherland (eds.), *Microsimulation Models for Public Policy Analysis: New Frontiers*, STICERD Occasional Paper 17, London: London School of Economics.
- IRONMONGER, D., 2004. "Bringing up Bobby and Betty: the inputs and outputs of childcare time", in N. Folbre and M. Bittman (eds.), *Family Time: The Social Organisation of Care*, Routledge: London.
- JACOBS, J. A. and K. GERSON, 2004. *The Time Divide: Work Family and Gender Inequality*, Massachusetts: Harvard University Press.
- JOYCE, M. and J. STEWART, 1999. "What can we learn from time-use data?" *Monthly Labor Review*, August 1999, pp. 3-6.
- JUSTER, F. and F. STAFFORD, 1991. "The Allocation of Time: Empirical Findings, Behavioral Models, and Problems of Measurement", *Journal of Economic Literature*, Vol. 24, pp. 471-522.

- KALLEBERG, A. L. and R.A. ROSENFELD, 1990. "Work in the Family and in the Labor Market: A Cross-National, Reciprocal Analysis", *Journal of Marriage and the Family*, Vol. 52, pp. 331-346.
- LANDFELD, J. S. and S. H. McCULLA, 2000. "Accounting for non-market household production within a national accounts framework", *Review of Income and Wealth*, Vol. 46, p. 3.
- LAYTE, R., 1999. *Divided Time: Gender, Paid Employment and Domestic Labour*, Aldershot: Ashgate.
- LEONARD, M., 2004. "Teenage Girls and Housework in Irish Society", *Irish Journal of Sociology*, Vol. 13, No.1.
- NATIONAL STATISTICS BOARD, 2003. *Strategy for Statistics 2003-2008*. Dublin: Stationery Office.
- OFFICE FOR NATIONAL STATISTICS, 2003. *The United Kingdom 2000 Time-Use Survey*. Technical Report. London: Office for National Statistics.
- PACHOLOK, S. and A. GAUTHIER, 2004. "A Tale of Dual-Earner Families in Four Countries" in N. Folbre and M. Bittman (eds.), *Family Time: The Social Organization of Care*, Routledge: London.
- ROBINSON, J.P. and G. GODBEY, 1997. *Time for Life: The Surprising Ways Americans Use Their Time*, Pennsylvania State University Press.
- ROBINSON, J. and A. BOSTROM, 1994. "The overestimated workweek? What time diary measures suggest", *Monthly Labor Review*, August, pp. 11-23.
- SHELTON, B.-A. and D. JOHN, 1996. "The Division of Household Labor", *Annual Review of Sociology*, Vol. 22, pp. 299-322.
- STINSON, L. 1999. "Measuring how people spend their time: a time-use survey design," *Monthly Labor Review*, August.
- WILLIAMS, R., 2004. "An introduction to the UK Time-Use Survey from a labour market perspective," *Labour Market Trends*, February.

